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Proceedings of the

5th International Conference on Gender Research

A Conference hosted by

University of Aveiro

Portugal

28-29 April 2022

Edited by

Professor Elisabeth T. Pereira, Professor Carlos Costa and Professor Zélia Breda

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Proceedings of the

5th International Conference on Gender Research

ICGR 2022

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Preface

These proceedings represent the work of contributors to the 5th International Conference on Gender Research (ICGR 2022), hosted by the University of Aveiro, Portugal, on 28-29 April 2022. The Conference Co-Chairs are Professor Elisabeth T. Pereira and Professor Carlos Costa, and the Programme Chair is Professor Zélia Breda, all from the University of Aveiro, Portugal.

ICGR is a well-established event on the academic research calendar, and it is now in its 5th edition. The key aim of the conference is to provide the opportunity for participants to share ideas and cutting edge gender research. This edition aims to promote new insights and discussion about the current global scenario and present different perspectives on how to overcome gender-related unbalances exacerbated by the COVID-19 pandemic. The scope of papers will ensure an interesting two-day event of presentations and debate with researchers from diverse backgrounds from around the world. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

The opening keynote presentation is given by Prof. Dr. Katharina Wrohlich, from the German Institute for Economic Research (DIW Berlin), Germany, on *The Interrelation of Different Gender Gaps on the Labor Market - A European Comparative Perspective.* The second day of the conference will open with an address by Professor Emeritus Pat O'Connor, from the University of Limerick, and Visiting Professor at the Geary Institute, University College Dublin, Ireland, who will discuss whether *Gendered Power is Irrelevant in Higher Educational Institutions.*

With an initial submission of 108 abstracts, after the double-blind peer-review process, there are 35 Academic research papers, 2 PhD research papers, 1 Non-Academic paper and 3 work-in-progress papers published in these Conference Proceedings. These papers represent research from academics worldwide, namely from Austria, Bulgaria, Canada, Cyprus, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Kazakhstan, Netherlands, Norway, Portugal, Russia, Slovakia, South Africa, Spain, The Netherlands, the United Kingdom and USA.

We hope you enjoy the conference!

Professor Elisabeth T. Pereira, Professor Carlos Costa and Professor Zélia Breda

University of Aveiro
Portugal
April 2022

ICGR Conference Committee

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Biographies

Conference and Programme Chairs

Professor Carlos Costa is a full professor and entrepreneur based at the University of Aveiro, Portugal. Carlos started out doing an undergraduate degree in regional and urban planning (University of Aveiro). This was followed by a specialization in tourism, at the master's and doctoral level, at the University of Surrey, in the UK. Carlos is now Head of Department, at DEGEIT – the largest department of the University of Aveiro. With publications at the highest level, Carlos also enjoys writing down-to-earth articles for the media and for the general public. As the Director of the PhD in Marketing and Strategy, as well as of the PhD in Tourism, both at the University of Aveiro, Carlos is an inspiration to colleagues and students alike – to perform beyond their dreams and achieve new entrepreneurial heights, whatever the domain may be.

Professor Elisabeth T. Pereira holds a PhD and Master in the fields of Economics and Business Management. She is Assistant Professor of Economics at the University of Aveiro (Portugal), and senior researcher in the field of Competitiveness and Innovation at the Research Unit GOVCOPP-University of Aveiro. She is author of several dozen articles, books, chapter of books and communications at international conferences.

Zélia Breda Assistant Professor and Director of MA in Tourism Management and Planning,University of Aveiro. Member of Research Unit Governance, Competitiveness and Public Policies (GOVCOPP); founding member/vice-president of Observatory of China and Portuguese Institute of Sinology. Authored/co-authored national/international papers/communications on tourism development, networks, tourism in China and Goa (India), gender and tourism, and internationalisation of tourism economy.

Keynote Speakers

Pat O'Connor is Professor Emeritus of Sociology and Social Policy at the University of Limerick and Visiting Professor, Geary Institute, University College Dublin, Ireland. Her 120 publications include eight books, 30 chapters and 80 peer-reviewed journal articles. Her research focuses on gendered power, leadership, excellence, micropolitics and organizational culture. She is on the Advisory Boards of TARGET, CHANGE and RESET and was visiting professor at London, Aveiro, Linkoping, Deakin and Melbourne. She is co-editor of *Gender Power and Higher Education in a Globalised World.*

Katharina Wrohlich is Head of the Gender Economics Research Group at the German Institute for Economic Research (DIW Berlin) and Professor of Public Finance, Gender and Family Economics at the University of Potsdam. Her research focuses on the evaluation of labor market, family and tax policy on employment and wages of women. Moreover, she is working on the issue of gender gaps in the labor market, in particular in terms of wages and leadership positions. Before joining the gender economics research group at DIW, Katharina was a research associate at and deputy head of the public economics department at DIW Berlin. She finished her PhD at the Free University of Berlin in 2007. Prior to her doctoral studies, she studied at the University of Vienna and at Georgetown University in Washington, D.C.

Mini Track Chairs

Tindara Addabbo is Full Professor in Economic Policy at the University of Modena and; Reggio Emilia. Current main research areas: wage discrimination by gender, well-being,; gender budgeting, gender gap in education, gender equity firms certification. Coordinator of *Leading Towards Sustainable Gender Equality Plans in research institutions* – (H2020-SwafS-2019 – 873072). web site: http://personale.unimore.it/rubrica/curriculum/addabbo

Claudia Canali is Associate Professor in Information Engineering at the University of Modena and Reggio Emilia. Her research interests focus on cloud/fog computing systems and gender equality in ICT. Scientific responsible for her university in the Horizon 2020 Project EQUAL-IST Gender Equality Plans for Information Sciences and Technology Research Institutions (2016-2019). Web site: https://weblab.ing.unimore.it/people/canali/

Dr Serene Dalati is a senior lecturer at the faculty of Business administration at the Arab International University, Syria. Serene has obtained a PhD in Leadership, Organizational Culture and Job satisfaction in 2008 which was preceded by British Chevening scholarship to study for an MBA in Banking and Finance from University of Wales, Bangor in 2002. Serene teaches for areas in Organizational Behaviour, Leadership, Culture and Job satisfaction. Serene has also established experience in Erasmus+ Capacity Building in Higher Education and developed a project application with acronym FREE which has a scope of Female Resilience and Empowerment in Higher Education in the South Mediterranean Region.

Emília Fernandes is an Assistant Professor in the School of Economics and Management of the University of Minho, Portugal, lecturing at undergraduate and post-graduate levels in courses of Management, Human Resources Management. Her publications have been in research areas related to gender discourses and identities, practices of resistance, entrepreneurship and small and medium enterprises, and professional embodiment.

Regina Leite in an Assistant Professor in Organizational Behaviour and HRM in the Department of Management of the School of Economics and Management at the University of Minho. Former coordinator of the master course in Human Resource Management. Research interests: Work and non-work spheres, privacy in the workplace, sexual and moral harassment, and gender issues.

Nuran Öze is Assoc. Prof. Dr., Acting Dean of Faculty of Communicaton, Head of Institute of Graduate Studies and Research, Chair of Department of Visual Communication Design in Arkın University of Creative Arts and Design (ARUCAD), Northern Cyprus. She especially interested in culture, communication, gender, PR and specifically with social media. In recent years she has researched social media usage patterns and its effect on society, social media addiction, identity construction on social media.

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Giulia Arena is a PhD candidate at the University of Genoa, her research project about gender budgets in academia is situated at the intersection of law, sociology, and feminism. Writing the UniGe gender budgets she fell in love with data feminism. Her main research topics are gender public policies, gender mainstreaming, reproductive and productive work.

Sameena Azhar, PhD, LCSW, MPH, is an Assistant Professor at the Graduate School of Social Service at Fordham University. Her areas of research interest are HIV, gender, sex work, and addiction.

Rita Bencivenga is member of the Ulysseus Team at the University of Genoa, Italy, Visiting Research Fellow at the Trinity Centre for Gender Equality and Leadership (TCGEL), Trinity College Dublin and member of LEGS - Laboratoire d'études de genre et de sexualité, CNRS/Université Paris. Main research areas: gender studies, adult non formal and informal education, gender in higher education, and gender and technology.

Erika Christie Berle is a Ph.D. Candidate at the UiS Business School at the University of Stavanger. Erika specializes in applied econometrics focusing on machine learning and text. Her research applies to different areas within economics - such as behavioral, financial, and environmental economics. Before starting the Ph.D., Erika worked as a management consultant.

Natalia Blednova is an analyst at the Center for Regional Economic Research of Ural Federal University (Russia). Her research interests include balancing professional and parental labour. Specialities: Demographic policy, balancing professional and parental labour.

Akangshya Bordoloi, 26-year-old Assamese, Indian from Department of Sociology Maynooth University, Ireland. I was awarded the NUI Travelling Scholarship for my PhD on 'A Comparative Analysis of Sex Work Activism between Dublin and Delhi'. I am a tutor for undergraduate sociology students and Secretary for Sibeal Network. I have also published three journal articles.

Fatiha Bouanani I am from Algeria and started my PhD in October 2016 at the University of Liverpool. I am also an associate fellow in higher education. I have attended and presented conferences in Leeds, Chester, and Liverpool University. I am currently preparing for my viva while working as an English tutor.

Nasima M.H. Carrim is an Associate Professor at the Department of Human Resource Management at the University of Pretoria. Her research focuses on gender in management, culture, religion and minorities in the workplace from an intersectionality and identity perspective. She has authored many articles in international journals and books related to diversity management.

Teresa Carvalho is an Associate Professor at University of Aveiro, Department of Social, Political and Territorial Sciences and senior researcher at CIPES – Research Center on Higher Education Policies. She is the coordinator of the H2020 CHANGE project – CHAlleNging Gender (In)Equality in Science and Research.

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Elizabeth Conaghan is an Associate Professor at the School of Law, University of Reading, England. Prior to joining the University, she worked as a barrister in independent practice. She has conducted the current project on student experiences of assessed group work with a team of fellow researchers at the School of Law.

Lorena M. D'Agostino is Assistant Professor of Management at the Department of Economics, Management and Statistics, University of Milano-Bicocca, Italy. She received a Ph.D. in *Economics* at Marche Polytechnic University, Italy, in 2011. Her current research interests are *firm innovation, data-driven decision making, new venture strategy.*

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Sara Diogo is a guest Assistant Professor at University of Aveiro in Portugal. She holds a joint-PhD from the University of Jyväskylä (Finland) and the University of Aveiro, comparing policy changes in Portuguese and Finnish higher education systems. Her interests focus on comparative higher education research, governance, internationalisation, public policy, applying a gender lens to her research.

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Linh Duong is a doctoral candidate at Åbo Akademi University. I work on the research topic of gender construction in entrepreneurship, taking start-up pitches as the central context. In my research, I apply qualitative methodologies to explore different perspectives, interactions, and narratives. The topic of gender in start-up pitches has won the best doctoral proposal at the RENT Conference 2021.

Hind Elhinnawy . A dedicated feminist/activist academic with an interdisciplinary research agenda focused on gender activism, intersectionality and social change. Hind's work for over a decade has led to law and policy reform in Egypt. Her current projects include the publishing of a monograph entitled; *The Secular Muslim Woman: An Alternative Voice in the War of Ideas* (Bloomsbury).

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Needham Yancey Gulley (he/him/his) is an associate professor in the Higher Education Student Affairs program at Western Carolina University. Dr. Gulley has a long history of advocating for social justice within educational contexts through his scholarship, teaching, publications, presentations, trainings, and volunteer endeavours. In 2019 he was inducted as a Diamond Honoree by ACPA College Student Educators International.

Sarina Gursch holds a master's in industrial mathematics. She currently works as a PhD student at the Institute of Software Technology at Graz University of Technology. The topic of her doctoral thesis is gender equality in technology. FFG project Code'n'Stitch, EU Project Gender STI and the annual Girls Coding Week enriches her knowledge in this field.

Katarzyna Gut. Mentor at Centre for Trust, Peace and Social Relations at Coventry University. Previously Kat worked on Horizon 2020 TInnGO Project concentrated on gender and smart mobility by building the capacity to generate and apply evidence on issues relating to gender equality and transport.

Colette Harris is Reader in gender and development at SOAS University of London. As gender trainer, community educator and development specialist she has worked with rural and poor urban communities in Sub-Saharan Africa, Latin America, Central and South Asia. Her research focuses on gender norms and improving pedagogies for grass-roots social and public-health education.

Jayseema Jagernath Master of Commerce degree from University of KwaZulu Natal. Career commenced in industry, thereafter academia, Worked for NGO, assisting those in rural area across the country to develop and manage resources. Currently Deputy Head of School of Management at IIE's Varsity college, a brand of Independent Institution of Education. Responsible for academic management running across all campuses nationally. Specialised in Finance, Investments, Banking and Management; shares a passion for women's empowerment.

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The Connection Between Gender Budgeting and Academic Housekeeping in RPOs

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Abstract: Gender Budgeting is a tool to apply the gender mainstreaming perspective to the accountability process in order to give evidence of the unequal distribution of public resources between women and men. Academic Housekeeping is any task "low-status, time-consuming, largely invisible, and that nevertheless needs to be done" (Kalm, 2019) in the academic daily business. It is a source of gender inequality since it is largely ascribed to women. Money and time are two sides of the same coin of Gender Inequality in Academia and therefore need to be identified and managed with an holistic approach that recognizes the interconnections between them. The results chain of the Performance-Oriented budgeting approach is therefore used to describe the transformation of the budget for salaries into the value of researchers' work through time, activities, products and results. In this process, Academic Housekeeping emerges as a matter of Gender Budgeting, too. Literature describes Academic Housekeeping as an inequality regime echoing the domestic sphere and bringing its biases and limitations to the scientific race of competitiveness. The Housekeeping tasks are assigned largely arbitrarily and with unintentional side-effects. Its negative gender impact on women's career is also clearly recognized by four main studies, in every field and with further intersectional spill overs. Gender Budgeting reports in Academia therefore do need to embed a Gender impact assessment of Academic Housekeeping in every step of the main methodologies adopted: Identity, Context Analysis, Planning Analysis, Budget Reclassification, Implementation and Performance Audit. The conceptual framework that emerges from the paper confirms the benefits that might arise from further researches on this field. The paper stems from the LeTSGEPs European Horizon Project (Leading Towards Sustainable Gender Equality Plans RPOs)

Keywords: gender budgeting, academic housekeeping, women's academic career, gender equality

1. Introduction

Gender Equality (GE) in Research and Performing Organizations (RPOs) may be achieved by addressing the multiple gender biases and discriminations that affect women's careers, empowerment and quality of their research. The different issues involved in the gender (in)equality process are all part of the same system and are interdependent on each other. For this reason, concepts that may appear distant, like Gender Budgeting (GB) and Academic Housekeeping (AH), have indeed strict cause-effect relationships.

GB is a tool to apply the gender mainstreaming perspective to the accountability process in order to give evidence of the unequal distribution of public resources between women and men.

On the other side, AH concerns any task "low-status, time-consuming, largely invisible, and that nevertheless needs to be done" (Kalm, 2019) that is a source of gender inequality since it is largely ascribed to women.

These two gender issues deal with the management of money (GB) and time (AH) and have both a strong impact on gender inequalities. Even though at a first sight they may appear independent issues, in this paper we demonstrate for the first time in literature the links between them and how they need to be managed together in order to achieve a better understanding of gender inequalities and to develop new strategies for GE.

We first describe the relationship between GB and the time use, highlighting AH as a significant source of gender inequality and of loss of productivity and budget efficacy (section 2).

A further in-depth analysis of literature and recent studies on AH provide a better understanding of the framework conditions (section 3), the impact of its unequal gender distribution (section 4) and its related negative effects on researchers' careers and on the budget efficacy.

Finally, a possible methodology for tracking AH and its impact into the GB process is outlined (section 5) with some provisional data from a survey on Italian universities. Conclusions confirm the initial aim and offer the reasons for other and more in-depth research on this topic in the future (section 6).

This paper stems from the Horizon 2020 project LeTSGEPs (Leading Towards Sustainable Gender Equality Plans RPOs, Leading Partner University of Modena and Reggio Emilia).

2. GB and time use in AH along the results chain

In general terms, GB is the:

> *"..Application of gender mainstreaming in the budgetary process. It entails a gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process, and restructuring revenues and expenditures in order to promote gender equality…" (Council of Europe, 2005)*

Pursuing this general objective, literature has developed over the years some specific GB objectives:

> *"..1. to promote equity, efficiency and effectiveness (the 3 Es) in planning and policies implementation - ABA - The account Based Approach (Sharp, 2003)*
>
> *2. to favour transparency in the allocation and redistribution of public resources;*
>
> *3. to increase awareness through information and stakeholders' involvement;*
>
> *4. to increase the development of human capabilities from an equality perspective…" (Addabbo et al, 2021)*

RPOs' budgets are composed of different items, which each require specific tools to evaluate their gender impact. In the case of the expenditures related to the researchers' salaries, GE is formally ensured by National Collective Labour Agreements, where in place. Nevertheless, some gender wage gap may be observed as a result of the vertical segregation (with the lower probability for women to achieve the better paid Grade A level) (European Commission, 2021). Other sources of gender wage gap can be also related to the variable part of the remuneration (such as payment levels due to job experience, retention or performance bonuses). A third gender inequality topic, that we analyse here, is related to the different time use of men and women in Academia for the same pay.

Actually women tend to cover a higher share of AH, which refers to the assignment of institutional tasks like bureaucratic, logistic, organizational, representational tasks etc (see section 3 and 4). These tasks are highly time consuming and, when unequally shared, represent a source of inequality in terms of raising higher obstacles for assigned researchers to engage in core research activities, with costs in terms of career perspective and recognition.

Still time use is often not measured and thus the distribution of earnings on the different academic activities cannot be pursued. Nevertheless, it is possible to include AH in the GB analysis when the RPO accountability system considers expenditures on goods, services, but also, considering human resources, on time.

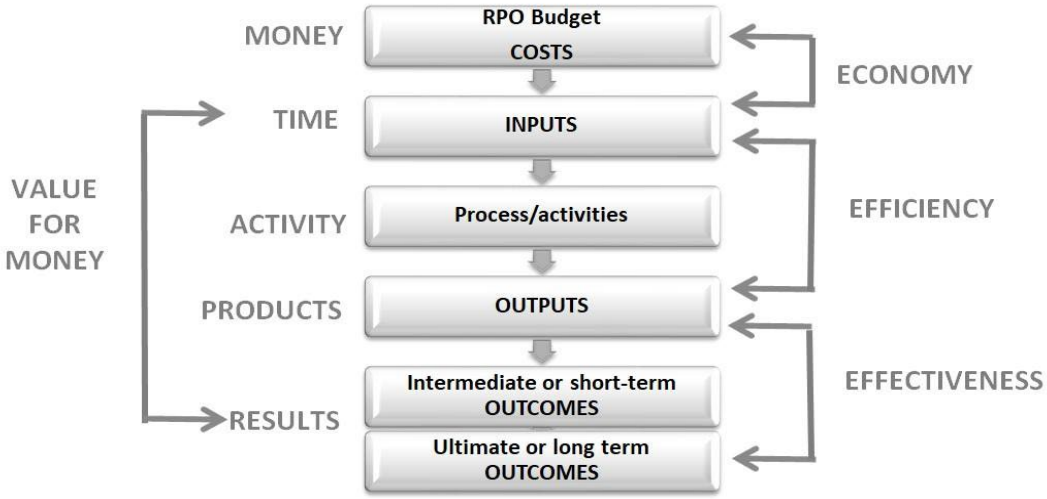
The budget allocated for human resources is directly connected to the time use, despite it is difficult to concretely monitor in the research field, both in general terms and specifically as for its gender impact, beyond the fulfilment of working time officially coded by National Labour agreements.

Mainly in the case of researchers, whose effective working conditions are not adequately monitored, this area hides serious gender inequalities, of which AH is a significant part.

The conceptual framework that allows to include the gender impact of AH within the wider process of GB may be developed by adapting the Results chain of the Performance oriented GB approach (Sharp, 2003):

With reference to the specific RPO's results chain of AH we identify:

Costs: The money allocated in the budget for researchers' salaries.



Source: Our elaboration on Sharp R., 2003

Figure 1: Results chain

This money is gender neutral in this first phase since RPO's research contracts recognize the same pay for the same role in careers.

Inputs: The time that researchers actually spend for their paid work at RPOs.

This time should reflect the paid work in general terms, but in concrete there is not a mandatory rule in the research field that controls and limits the same maximum amount of daily hours of work for everybody. The freedom that researchers have in deciding how much time they spend in their work for the same amount of salary represents a first source of unfair competition between men and women, mainly for those with family care responsibilities. This unbalance represents a limit to women's overall work productivity.

Process/activities: The work that researchers do for the salary they are given.

These process/activities may include for example: Research implementation, fundraising for research, project design, lobbying, teaching, and AH.

RPOs recognize a different value to these processes/activities in terms of institutional power and prestige. It is possible to outline a rough classification of these activities in terms of institutional value that enables researchers' careers advancement and empower their freedom of research.

Source: Our elaboration

Figure 2: The pyramid of power values of RPOs activities

AH represents an essential activity for the RPOs' daily operation, but, since it is considered at the bottom of the scale of values of the institution in terms of power and prestige, it is usually avoided as much as possible by the more competitive researchers. In the end it is often assigned to the researchers considered weaker and less competitive, mainly belonging to minority groups, in terms of gender, ethnicity ecc (section 4).

At this step of the results chain women already suffer a double discrimination, since they have to:

- 1. struggle more than men to spend daily the same amount of hours to equally compete at their work as researchers,
- 2. accept an amount of undervalued hours for AH that is bigger than men's.

Outputs: the concrete results of researchers' work.

RPOs' outputs may be monitored with indicators like: number of publications, citations, amount of funds raised, number of teaching hours, projects submitted or implemented. They may be analysed under a gender perspective monitoring the "who did what" indicators that usually give evidence of a significant gender imbalance due to decisions and unequal competitive factors that took place in the previous phases of the results chain.

Usually, outputs related to lobbying and AH are not accurately accounted for: researchers' timesheets, whenever in use, don't reflect properly these activities. Besides, researchers often self-limit the effective number of hours they declare in time-sheets preferring to select core activities like research and teaching or due to the need of respecting a fixed amount of working hours.

This unreported and unaccounted amount of hours therefore hides two main activities that have a great impact on RPOs and on researchers' careers. Since lobbying and AH are respectively at the top and at the bottom of the pyramid of the RPOs scale of power values, it's not a coincidence that they are highly gender imbalanced.

Outcomes: The consequences of researchers' work.

Researchers' outputs may achieve numerous outcomes at a double level.

From the individual perspective there is no doubt that avoiding AH saves hours of work to concentrate on the more valuable activities and to increase chances of careers' advancements. Since women are more involved in AH (section 4), there is no doubt that they are highly disadvantaged and hampered in their career path.

From the institutional perspective having an unbalanced distribution of AH tasks implies limiting women's talents growth and reducing their contribution to the research achievements of the RPO.

3. Characteristics of AH within the academic framework

AH is a concept that describes the observation that women and persons from minority groups in academia are more likely than men to perform work that is "low-status, time-consuming, largely invisible, and that nevertheless needs to be done" (Kalm, 2019b). This shows parallels to the distribution of work in private households according to traditional gender roles, hence the reference to "housekeeping" tasks. So far it has been mainly used in the US, at European level (Heijstra et al., 2017) and in Sweden (Kalm, 2019). Despite literature on this topic is rather poor, it is possible to describe AH through four main features:

a) AH shares the same inequality regime with domestic distribution of tasks

Authors like Kalm (2019a) and Heijstra et al. (2017) see the phenomenon as a remnant of the historically based gendered division of labour, which dates back to pre-industrial times with women to a large extent being excluded from paid work and restricted to the domestic sphere. The jobs that were open for women were of the same nature and conceptually connected to housework: caring, service and cleaning tasks, which were unskilled and undervalued - a situation which still resonates in the private as well as in the work sphere today, so they argue. In reference to Acker 2005 the boundary between the two spheres is seen as fluid (Acker, 2005, p. 110) with the same "inequality regime" (Kalm, 2019a, p. 7) being in effect in both, with undervalued tasks being executed more often by persons with lower social status - based on categories like gender (identity), class

and ethnic origin (Social Sciences Feminist Network Research Interest Group, University of Oregon, 2017). The nature of AH tasks makes them low-promotability tasks, compared to high-promotability tasks like for example research (Babcock et al., 2017).

b) AH is a point of weakness in the Academic competitiveness race

The slogan "Publish or perish" is commonly used as a description of the big pressure for researchers on all different steps of the career ladder. The reason is obvious: the higher the position, the fewer positions are available - the academic pipeline is leaky by design (while it is even more leaky for certain groups). This high selection pressure is combined with an ideology of meritocracy (Heijstra et al., 2017, p.202): hard-working researchers, persevering, dedicating their life above all to their scientific progress are rewarded by the scientific system. An American study with Postdocs has confirmed the high pressure this system puts even on persons not completely new to the job, evoking feelings of failure, loneliness and inferiority on a large scale with a tendency to not criticize the system but oneself (Müller and Kennedy 2014).

The pressure is being individualized, while the precariousness of jobs and the shortage of work force is often a part of the system - with higher education institutions growing, administrative tasks increasing and administrative personnel not being increased by the same extent (the so-called Bologna Process of standardizing European higher education degrees step by step over the last twenty years has a part in this increase in bureaucratic tasks).

So while the academic system on the one hand "doesn't create incentives for helping out; instead, it rewards pushing others aside and focusing entirely on your own career." (Kalm 2019), it urgently needs willing personnel to fulfil its need for institutional "lubricant" in the form of AH tasks.

> *"It should be remembered here that not everyone is in the same position to act strategically in academic contexts…..factors such as gender, race and class tend to determine one's ability to choose a strategy." (Kalm, 2019a, p. 21)*

According to literature, it accordingly seems as if the persons with the least good standing, social status and support are most disadvantaged in the assignment of AH tasks in academia (Kalm 2019b, Social Sciences Feminist Network Research Interest Group, University of Oregon, 2017) .

c) AH tasks are distributed arbitrarily and the role of gatekeepers

A study using qualitative data conducted in six countries (Heijstra et al., 2017) has furthermore described how unequally and arbitrarily AH tasks - and on the other hand the privileges of being free of them - can be distributed.

The tasks that come with an employment contract in academia are often not explicitly fixed (this applies at least to the situation in Sweden (Kalm 2019a) and Germany) and there is little orientation of how much time should be spent on which part of the job and few official documentation of how academic personnel actually uses its time.

Who ends up with the AH tasks seems to be largely determined by senior academics which act as gate keepers to privileges and appear to be very powerful with interviewees stating that it would be "impossible to say no" to their requests (Heijstra et al., 2017, p. 209).

Senior academics role can be perceived either as negative, and bringing a burden upon the individual researchers, or positive - as interviewees also explained to be "protected from teaching" (Heijstra et al., 2017, p. 208) and being given space to focus on their research by their supervisors.

So there seems to be a mechanism for supervisors informally assessing which of their subordinates should be given time for their research and which should fulfil certain service tasks - while the criteria for their judgement stay unclear, arbitrary and certainly often not pondered.

d) AH may cause unintentional side-effects of commitment for diversity and gender equality goals

Many RPOs, aiming to implement gender equality and diversity policies, prescribe the representation of different constituent groups of the RPO, especially women and men, in an equal way. This increases the workload for underrepresented groups - namely senior female academics - while their taking part in committees is less beneficial for their career (support for this fact see Babcock et al., 2017, p. 715) and takes time away from their research. Gender Equality committees and working groups are also mentioned as time-consuming AH tasks (Heijstra, 2017; Kalm, 2019a, p. 203), which are predominantly performed by female academics.

Besides these official commitments to tasks in the name of equality, some study results suggest that unofficial support and mentoring for persons of underrepresented groups also contributes to a high service workload for academics from underrepresented groups as well.

This is supported by findings especially for academics of colour in the US (Shavers et al. 2014) and for underrepresented groups in general by findings from the Social Sciences Feminist Network Research Interest Group of the University of Oregon (2017).

4. The gender impact of AH

Literature on the gender impact of AH is sparse so far: after a wide and in-depth research only four papers focused on this topic emerged. All of them were in any case clear on recognizing the gender impact of AH and the intersectional aspects that also have to be taken in consideration.

The first study - Heijstra et al., 2017 - is an explorative study with the aim of *testing the concept of AH* for its applicability to the setting in *different European countries* and fields. For this purpose it examines how early-career academics deal with AH tasks and the possible consequences of this undervalued work.

This study gives evidence to the gender impact of Academic Housework tasks in all of the six research organisations analysed, from different European countries and for both Social Science and Humanities (SSH) and Science, Technology, Engineering e Mathematics (STEM) departments, even if with different features. In the SSH departments, statistically more feminized, the interviewees are generally more negative towards AH tasks, complaining more often about them and specifically mentioning teaching as a part of those tasks. Academics from STEM departments, on the other hand, mainly mention more research-related service tasks like administrative tasks due for international research projects, the reviewing process of scientific articles or creating safety instructions for laboratory use. They also believe more often that they could benefit from these tasks. The differences in the tasks and in the strain they produce on SSH and on STEM academics is explained with a smaller student-teach ratio in STEM and with better job alternatives outside academia.

The second study - Babcock et al., 2017 first tests presumptions regarding the *promotability of tasks* with a survey on 48 faculty members from Carnegie Mellon University, Pittsburgh, USA: among them there is a broad agreement that people are more likely to be promoted when they use more time on research and less time on service tasks. 89,6 percent of the participants rate working on research papers and participating in conferences as more important than serving on the faculty senate or serving on an undergraduate curriculum revision committee.

In terms of gender impact, the study examines whether men and women react differently to requests to perform low-promotability tasks, whether there is a difference in the frequency of being asked and which factors contribute to the differences found. An important result of these experiments is that the *willingness to volunteer* for a task that everyone prefers to be done by another group member depends on the gender composition of the persons present.

When women and men are present in the lab, women are 50 percent more likely to volunteer than men, while this gender-gap is eliminated when in the room there are only persons of the same sex. This seems to be an effect of the belief that women are more likely to volunteer than men. Further experiments show that women are also *more often asked to volunteer* than men - by women and men alike. While a direct request increases the rate of volunteering for men and women, it is still higher for women. The difference in volunteering is therefore not based on different preferences but merely by the beliefs and expectations regarding gender roles.

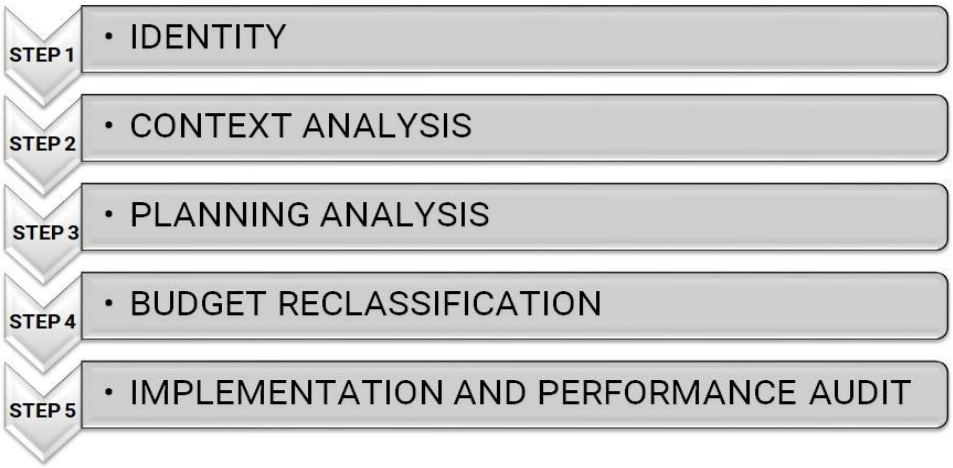
The third study - Social Sciences Feminist Network Research Interest Group, University of Oregon, 2017 - uses *time-use journals* to investigate AH on a sample of tenure-track academics. Despite the small sample and pre-selection of certain types of academics participating in the study affects the results in terms of gender differences, this experiment evidences the importance of considering also the intersectionality of different personal characteristics connected to marginalization in time-use studies. The actual dividing line in the data is found between non-marginalized (12 persons) and marginalized academics (people of color, sexual minorities, persons from a working class-background) (14 persons). Results in this study are very clear, especially at the rank of assistant professor: the time that non-marginalized assistant professors spend on research is four times the mean of the time marginalized professors spend on the same activity. On the other hand, the time spent on service for marginalized assistant professors is also roughly four times the mean of non-marginalized professors. For full professors the differences is still visible with marginalized full professors having done more than two-times the amount of teaching then the non-marginalized full professors.

The fourth study - Guarino and Borden, 2017 – analyses two big US data sets from *surveys of academics from more than 140 US universities.* Controlling for rank, ethnicity and field of study, both data sets show that on average female academics perform significantly more service than male do. This difference is driven mainly by *internal service tasks,* benefitting the department, the campus or the whole university, while the difference regarding *external service* for local, national or international communities is smaller. An important result is also that there is lots of heterogeneity in task distribution across fields and disciplines.

5. How to embed AH into the GB methodology

Considering the intersections with the GB process mentioned in Section 2, AH therefore needs to be included into the RPOs GB reports as one of the main issues under examination.

The review on main GB methodologies experimented in European RPOs, made within LeTSGEPs project (Addabbo, 2020) has outlined 5 main steps that most of these experiences share. These steps have been described in the LeTSGEPs Manual (LeTSGEPs, 2020) and need to be all implemented with the AH gender impact analysis in the future.



Source: Our elaboration

Figure 3: The 5 steps to RPOs GB Report

- *Identity:*

While reflecting on the RPO's identity in terms of GE values, it is advisable to discuss how AH is considered among the RPO's values. It's very important to make explicit the position of AH in the RPO's pyramid of power values (Section 2), whether it is considered as a burden to assign to the marginalized groups of academics, or a set of essential activities for the RPOs functioning. Considering that GE and diversity policies are considered AH tasks, the contradiction between investing in them and at the same time penalizing academics mainly committed to these tasks should be clearly evidenced and solved.

- Context analysis:

Monitoring and recognizing the amount of AH work, in terms of hours, commitment and devotion is a fundamental step that allows the development of specific tools to make gender inequalities emerge.

Categorization of AH tasks should always start from the common characteristics of their being low-status, invisible and time-consuming (Kalm, 2019) and take account for possible differences on a countries' general conditions, on the type of institution, the institution's mission and structure and on the field of research. Especially teaching is an activity that can be categorized quite differently depending on the circumstances. A field-check of categorization as done in Babcock et al., 2017 is therefore advisable. Criteria for career progression and to what extent different time use are evaluated for this purpose should be described. Reconstructing the different AH workload by gender and grade one can also detect to what extent the AH is provided in crucial points of the career ladder.

Keeping diaries on the allocation of time can be used to disentangle the different use of time by gender and grade.

A first descriptive analysis based on time use data from 20 Italian universities that have participated to a survey proposed by the National Conference of the Italian University Equal Opportunities bodies allows to have a first picture on the allocation of time by gender.

As the tables show, one can observe a higher research activity as main activity by men in all grades. The gap widens in the researcher position. Being evaluated on the basis of research outcomes, this gender gap in research activities can have as a side-effect a negative impact on the chances of progressing in academic career for women.

On the other end networking and institutional activities do play a major role in the academic activities of women than for men with a higher gap in grade A.

	Full Prof		Associate		Researcher		Total	
Activity	M	F	M	F	M	F	M	F
research	7,8	6,1	11,0	9,2	18,6	14,5	12,0	10,1
teaching	23,3	19,3	36,4	36,0	43,8	40,0	34,3	33,7
research coordinator	17,3	12,3	12,9	12,5	8,6	11,0	13,2	12,0
networking	2,9	6,6	4,7	3,5	5,9	8,3	4,4	5,5
institutional	48,7	55,7	35,0	38,8	23,1	26,2	36,2	38,7
Total	100	100	100	100	100	100	100	100
Obs.	353	217	476	524	297	296	1126	1037

	Grade			
	A	B	C	Total
Activity	M-F	M-F	M-F	M-F
research	1,7	1,8	4,1	1,9
teaching	4,0	0,4	3,8	0,6
research coordinator	5,0	0,4	-2,4	1,1
networking	-3,7	1,1	-2,4	-1,1
institutional	-7,0	-3,8	-3,1	-2,5

Figure 4: Time use in 20 universities by gender and grade

- Planning analysis

Results from the Context Analysis are meant to support the evaluation of the current GE strategies of the RPO, in this case with a specific attention to AH. New measures and actions may also be planned in terms of new rules and organizational processes and structures.

It is possible to tackle the AH problem on a double level.

At individual level, initiatives aimed at awareness-rising for senior academics and department teams, can help. This can be done for instance, within mentoring activities, by a specific mentorship on the allocation of time and the effect of it on career progression.

Specific empowering measures for academics overwhelmed by AH tasks is another counteracting element. These measures are especially helpful to counteract the taboo of complaining or even speaking of the burden of AH (Heijstra et al., 2017, p. 211) and the mostly unconscious mechanisms of self-fulfilling beliefs coming from gender roles (Babcock et al, 2017). Mentoring of younger academics from marginalized groups by senior academics on finding strategies to avoid a high AH workload, or role modelling of senior academics can also contribute to changes for affected individuals.

At Institutional level, RPOs have various possibilities for changing the framework conditions that contribute to the phenomenon of AH, as shown in section 3 - by establishing alternative values and culture, by making sure that the number of administrative personnel fits the actual workload, by creating visibility and regular monitoring of workload. The senior academic staff can be held responsible for gender-parity in task distribution and for introducing a clear and fair distribution of tasks to avoid any bias or arbitrariness, as simple as turn-taking.

- Budget Reclassification

The budget reclassification in itself, as detailed in section 2, doesn't allow a direct analysis on the consequences of gender inequalities in AH from a monetary perspective. However, considerations on academic staff earnings by Grade and level of career may give evidence to inequalities in career advancement for which the impact of AH can be better explored.

Reasons explaining gender imbalance in projects' fundraising may be better analysed keeping in consideration the AH impact.

In the process of financially valorising the benefits of AH, it is important to remember that

> *"For example, teaching and advising are central to student recruitment and retention. In an era where the academy is being defunded and institutions compete for students, faculty time that increases student retention is monetarily valuable. Developing systems that link such labor with its economic value can validate faculty work and render this labor more visible." (Social Sciences Feminist Network, 2017)*

- *Implementation and Performance audit*

This step may refer to both specific measures adopted to counteract the negative impact of unequal AH, and to a gender mainstreaming approach aimed to investigate the hidden impact of AH on researchers' productivity, effectiveness and the RPO competitive capabilities.

6. Conclusions

In general terms, although there are still few studies on the matter, early researches show that AH exists, has an evident gender and intersectional impact, is a source of inequality and results in loss of diversity benefits for RPOs. Its connection with the efficiency of academics earnings accounted for in the RPO budget along the results chain (Section 2) broadens the perspective of AH it into the GB process as a matter of hidden Gender inequality that deserves to be further explored.

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A Holistic and Integrated Framework to Examine Formal Women Business Networks (FWBNs)

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Abstract: Research about women entrepreneurs is not new. In addition to the body of work on women entrepreneurship, networks and businesses, several resources, assistance, and support have been provided through various channels to assist women in their business and entrepreneurial pursuits. Although, research in these areas is popular, there is an aspect that has not gained as much attention – formal women business networks (FWBNs). FWBNs are networks that run like organisations and provide a way for women to network and pursue shared interests while gaining business benefits. These networks provide benefits such as funding, trainings, access to business resource, and are funded by various organisations as well as patronized by several women seeking the benefits they provide. Hence, there is a high expectation on these networks to not only deliver on the very much needed support for women entrepreneurs, but also, to deliver on the ROI to groups, organizations, bodies, and women that give to these networks. Furthermore, recent environmental/external influences like a pandemic have impacted the way entrepreneurs do business and increased the need for support and networks. Thus, it is important that FWBNs that serve to help women businesses be examined more closely and holistically. While literature provides some evidence of the importance of FWBNs, there is limited research about these FWBNs. This could be due to the limited number of frameworks, models or theories that holistically examines all the various possible elements in these networks, as well as the relationships between them. Therefore, a holistic and integrated framework that draws from existing frameworks and provides a lens to measure and explore all possible elements that impact a FWBN, can help provide better insights and understanding in several aspects. This paper is an attempt to provide a holistic and integrated framework that draws from different theories and literature concepts to examine the nature of FWBNs and how they contribute to the success of women entrepreneurs.

Keywords: women entrepreneurs, business networks, women networks, formal women networks, technology, network theory

1. Introduction

Research about women entrepreneurs or the number of initiatives, networks and groups that cater to their business and entrepreneurial needs is not new (Cardella et al. 2020). As years go by, research continues to illuminate areas that may have been misinterpreted, left out or limited in contextual perspectives regarding these areas. In addition to the body of work on in these areas, several resources, assistance, and support have been provided through various channels to assist women in their business and entrepreneurial pursuits (UNCTAD, 2014; Ogundana et al., 2021). Although, research in these areas is extensive and continually developed, there is an aspect that has not gained as much attention – formal women business networks (Ajumobi, 2018; Villesèche and Josserand, 2017). These networks provide benefits such as funding, trainings, access to business resource, and are funded by various organisations as well as patronized by several women seeking the benefits they provide (Delanoe, 2013; Huang et al., 2013; Moletta et al., 2021). Hence, there is a high expectation on these networks to not only deliver on the very much needed support for women entrepreneurs, but also, to deliver on the return on investment (ROI) to groups, organizations, bodies, and women that give to these networks. However, there is limited research about these FWBNs, and as such, there is the risk of proffering inadequate support or solutions to the networks that hold key value and influence on women entrepreneurs and their business endeavours. The shortage of research on FWBNs could be due to a paucity of frameworks, models or theories that entirely examines all the various possible elements in these networks and how they interact to produce outcomes for FWBNs.

Key traditional network theories such as social network theory (SNT) have been used to provide some insights into networks (Borgatti and Halgin, 2011), however, the focus of SNT is mostly on actors within a network, the relationship between the actors, and the flow of resources between them and within the network (Scott, 1991; Wasserman & Faust, 1994). Other entrepreneurship and network theories, also focus on core network elements like actors, relationships and flow of resources (Volkokari, 2015; Ajumobi, 2018; Mlotshwa and Msimango-Galawe, 2020). These theories are lacking when it comes to understanding other elements that can impact networks like FWBNs, especially in the society today. These elements include governance (Provan and Kenis, 2008), information and communication technologies (ICTs) (Crittenden, Crittenden and Ajjan, 2019), and

external support. These elements have been studied in isolation as factors that impact not just business networks, but also women entrepreneurs (Human and Provan, 2000; Lin, 2008). Isolated studies means the body of knowledge will lack sufficient details about how FWBNs operate and if they truly provide benefits and assistance to women entrepreneurs as past studies suggest. Furthermore, the interdependencies between humans, technology, social and economic environments, and governance are often complex, and their effects on the outcomes of an organization need to be understood and explored to fully assess how they impact women entrepreneurs and the business networks they seek for support and success. Therefore, it is important to have a holistic and integrated framework that considers these complexities and interdependences, by providing a lens to measure and explore all possible elements that impact a FWBN. Such a framework can help provide better insights about, (i) how they function, (ii) the elements that interplay within them, (iii) how they realize outcomes, and (iv) how they can improve or expand their reach. This paper suggests such a framework and from this framework, we present a testable and measurable model.

The rest of this paper is structured as follows. First, a review of literature and existing theories, frameworks and elements are presented. Second, the approach taken to develop a holistic and integrated framework is explained as well as the elements being considered. Third, the conceptual model from the integrated framework is discussed. Lastly, this paper concludes with suggestions for future research.

2. Literature review

2.1 Women entrepreneurship and Formal Women Business Networks

Several studies have examined women entrepreneurs in developing countries and provided insight into the nature of their businesses and the way they perform in the business world. For instance, Morris et al. (2006) and Aramand (2012) found that women are often motivated by family responsibilities, need for financial stability, employment and economic factors, as reasons to get into entrepreneurship. These factors are similar to what motivation theories posit as the need for achievement and success factors that influence entrepreneurs into starting their own business (McClelland, 1967). In addition, the contribution of women as individuals or within a group or network, to the development of communities and societies through entrepreneurship has also been documented (Cardella et al., 2020). However, due to personal, societal and economic factors, especially those women in developing countries are often disadvantaged when it comes to running or growing their businesses successfully (Witbooi and Ukpere, 2011; De Vita et al., 2014). These factors include business size, type of business, educational and knowledge level, access to resources, cultural and social influences, inequality, family responsibilities (De Vita et al., 2014; Gupta and Mirchandani, 2018). Past research holds evidence and suggestions that, for women to become successful at their business endeavours or as entrepreneurs, they need to join business networks, especially FWBNs. This is because FWBNs provide women with access to resources and opportunities that can help them overcome economic challenges and help them achieve their business and personal goals for success.

FWBNs are networks that are governed and run like organisations and provide a way for women to network and pursue shared interests while gaining business benefits (Spring, 2009; Davis, 2012; Moletta et al., 2021). These networks provide benefits such as funding, trainings, access to business resources, and are funded or supported by various external organisations, as well as patronized by several women seeking the benefits they provide (Delanoe, 2013; Huang et al., 2013; Ogundana et al., 2021). Traditionally, these networks have managed their operations offline or in-person, however with globalization, 4th industrial revolution and a global pandemic, many of these networks have had to either pivot to a complete online presence or a hybrid of both offline and online operations and presence. ICTs are known to play a vital role in helping organisations and entrepreneurs manage environmental uncertainties and economic challenges, and assist them with operations and decision making (Jamali, Voghouei and Nor, 2014; Engmann and Ngwakwe, 2021).

A typical network will have some core elements like actors, relationships between the actors, and flow of resources between them (Lin, 2008; Borgatti and Halgin, 2011; Kim and Sherraden, 2014). To support these core elements within a network, there will be some form of governance, external support that provided resources to networks as well as use of some technology to help with the operations and maintenance of actors and relationships within a network (Ajumobi, 2018; Engmann and Ngwakwe, 2021). Psychology theorists like Johannisson et al. (2002) suggest that networks have certain dynamics and complexities due to the context they exist in and entrepreneurial orientation and opportunities available to actors/members within networks. These

aspects as argued in dynamic network theory influence the nature of the actors within networks and the roles that they play within a network (Westaby et al., 2014). Similarly, the dynamics and complexities will influence the type of outcomes FWBNs experience. That is, while FWBNs may provide helpful benefits like better business performance, support and information, they may also lead to negative experiences like unhealthy conflicts, unmet expectations and unhelpful relationships (Westaby et al., 2014). For instance, some studies have found that some networks can encourage societal notions that pose as barriers to women (Bierema, 2005) and also fail to provide benefits that will help its actors achieve their business goals (Casserly, 2012).

The discussion above highlights that FWBNs have several elements that make it run and deliver on its outcomes, and together they influence the outcomes or interdependencies amongst the elements. Thus, it iterates the importance of studying FWBNs with a holistic approach that examines and understand these elements and their interactions or resulting outcomes.

The following section discusses the theories that have been used to study networks like formal women business networks (FWBNs).

2.2 Traditional theories and perspectives used to study networks

Social network theory (SNT) is the most widely used theory to examine networks (Borgatti & Halgin, 2011). SNT focuses on actors as nodes (the individuals within a network), the relationships between them (connectors) and the nature of resource exchange or flow between them (Scott, 1991; Wasserman & Faust, 1994). The SNT theory is based on the assumption that the relationships or the positioning of the actors within the network influences the nature of resources the actor receives and in turn, this affects the nature or structure of the network. For instance, SNT posits that an actor that is centrally positioned is more likely to access all the resources within a network, while actors that have lose connections or are excluded within the network will have less access to resources (Haythornthwaite, 1996). SNT is highly useful in understanding how relationships are formed and maintained, the nature of the relationships, and the structure and dynamics from this interplay. It also helps to examine the nature and flow of resources between actors based on the relationships between them. SNT is often conceptualized or operationalized using two perspectives – the structural approach perspective and the resource approach perspective (Kim and Sherraden, 2014).

The structural approach examines how relationships are formed and maintained, as well as the influence of structure and dynamics on these aspects (Lin, 1999). Thus, to examine networks using the structural approach, authors examine the size, range, diversity and the ties (relationships) in a network. Structural approach posits that there can be strong or weak ties, and the strength of a tie is influenced by the level or frequency of intimacy, interaction, and emotional connections between actors (Granovetter, 2005). However, in a network context, stronger ties can lead to redundancy. This is because such ties mostly provide emotional support as opposed to richer or more diverse pool of resources that weak ties can provide, since this links to actors that are not within the usual family-like networks. Women often lean toward networks with strong ties (Redd, 2014), but for them to survive, grow and perform well with their business and entrepreneurial pursuits, they need a balance of strong and weak ties (Greve and Salaff, 2003; Engmann and Ngwakwe, 2021) - the latter is provided by FWBNs.

The resource approach rests on the notion that it is the nature of resources present within a network, or shared between actors with weak ties, that determines the benefits derived from a network and not the strength of the tie (Lin, 2000). Thus, to understand a network, one needs to examine the types of resources that are shared amongst the actors to gain insight into the type of resources present within the network (Kim and Sherraden, 2014). Research shows that the factors that influence women entrepreneurs and their business, also impact the kinds of resources they have and, impacts the nature of resources embedded within a network. As such, the resource approach has been adopted by researchers as a way to unpack some of the inequalities or lack women face in society or within their networks (Loscocco et al., 2009; Kim and Sherraden, 2014).

On their own, both approaches provide good insight into networks. However, a combination of both approaches as argued by Kim and Sherraden (2014), provide a more balanced and improved understanding about networks. A combined framework can be used to examine the actors within a network, the nature of connections/ties, the resources and the flow of resources, as well as the structure and influence of positioning and tie strength on the benefits derived by an actor.

2.3 Limitations of existing theories on networks

As discussed in the previous section, SNT is very instrumental to understanding networks, the actors within them, the nature of relationships and the nature of resources or flow of resources. However, SNT focuses on nodal/human elements and neglects the non-human/non-nodal elements that impact FWBNs in society today (Mejias, 2006). These non-nodal elements are governance, external support and ICTs. While some studies have attempted to discuss these elements, there is still a scarcity of research that unpacks these elements in the context of networks such as FWBNs. For instance, the major attempt to study or theorise about governance in networks has been by Provan and Kenis (2008). They proposed that network governance can be based on three types of models: (i) participant governed model (where every actor gets a say in the governance), (ii) lead organization model (where there is one actor that makes decisions and governs all activities within the network), and (iii) network administrative organization (NAO) (where governance is established based on mandate or by members of the network). Other authors, while they have not being specific about the mode of governance, have alluded to NAO being the mode of governance in most formal women networks (Singh et al., 2006; Spring, 2009).

Getting support and resources from external bodies or organisations is something FWBNs are well known for. For instance, FWBNs will often seek and get professional development, grants, advisory programmes, initiatives and events geared at helping women (Spring, 2009; Delanoe, 2013; Villesèche and Josserand, 2017). Such support and resources are very crucial to the actors within the network and even the success, survival and sustainability of FWBNs. However, literature is lacking in providing understanding about how FWBNs garner and gather support and resources, as well as how these external support and resources impact FWBNs and their contribution to women entrepreneurs.

Similarly, studies that examine the role or use of ICTs in organisations such as FWBNs is scarce. Literature shows that ICTs are very valuable to women entrepreneurs and how they gain capital and form or maintain relationships (Crittenden, Crittenden and Ajjan, 2019). In addition, with globalization, the 4th industrial revolution and societal/environmental/economical issues, leveraging ICTs is no longer an optional strategy but a crucial one for both women entrepreneurs and the networks that serve them. Furthermore, there is a call for studies that proffer ways in which ICTs can better support women business networks, such that effective and helpful policies and initiatives can be created to assist women and FWBNs to leverage ICTs fully for growth, sustainability and performance (UNCTAD, 2014).

An extensive review of literature elsewhere (Ajumobi, 2018) shows that there are several studies and theories that have provided insight into the nature of seven key elements that can be found within a FWBN. A summary of these elements, their definitions and related theories are provided in the table below (see Figure 1).

While the theories highlighted in Figure 1 overlap in certain aspects, they also vary in other aspects. In addition, these theories are often discussed or used in isolation to discuss the elements within a network and not holistically. Consequently, literature and the discussion on existing network theories and entrepreneurship theories highlight a gap that exists regarding women business networks, especially those of a formal nature. In addition, traditional network theories have focused mostly on nodal elements to examine formal networks as well as the interplay between these elements, and the resulting outcomes. The consequence of these gaps is that the understanding provided in current literature shows a scarcity of insight into the way the different non-nodal elements in FWBNs interplay or the influence of these interplay between nodal and non-nodal elements. A lack of understanding in this regard means that there is no adequate knowledge of one of the key structures that influences women entrepreneurial journeys as well as their business. Furthermore, limited or lack of a holistic understanding means government, practitioners and other direct or indirect stakeholders have no way of adequately measuring the impact of FWBNs to women entrepreneurs or what the networks require to best deliver on their promises and expected outcomes. To address this gap in this study, a holistic and integrated framework has been developed by adapting from current literature and existing theories that provided some insight on networks, women entrepreneurship and ICT usage (see Figure 2).

Constructs/concepts/ variables	Definition	Related Theories that explain the concept/construct	Sources that discuss the concept/construct
Core elements within the network			
Actors	These are represented as nodes within a network and serve as a core within a network. Through them, resources are exchanged and relationships are formed and maintained. They have varying characteristics, occupy varying positions and differ in their networking behaviour. In FWBNs, the core actors will be mostly women entrepreneurs.	Social Network Theory (SNT), Culture Theory, Disadvantage Theory, Motivation Theory, Entrepreneurship Theories, Social Capital Theory, Agency Theory, Relationship Theories, Capability Theory, Dynamic Theory, Social Position Theory	Haythornthwaite (1996); Borgatti & Halgin (2011)
Positions	Actors could be central, dependent, independent, excluded or included. This could be influenced by the agency of an actor		Bourdieu (1986); Hoang & Antoncic (2003); Lin (2005); Borgatti & Halgin (2011)
Demography Characteristics	This involves information on the age, educational qualification, age of business, type of business, technology use, and marital status. Studies show that these often influence the networking behaviour of women and also influence the way the run their businesses.		Ibarra (1993); Ahl (2006); Radhika & Sreekala (2011); Bogren et al. (2012); Sospeter et al. (2014)
Networking behaviour of women entrepreneurs in sub-Saharan Africa	This involves the networking approach/activity of women entrepreneurs, which informs the types of networks they belong to (formal/informal; homogenous/heterogeneous) and how they go about networking (that is, the relationships they form, how they maintain them and how they make use of the social contacts they make).		Greve & Salaff (2003); Oke (2013); Bogaards, Klerk & Mostert (2011); Omwenga et al. (2013); Sharafizad (2014)
Relationships/ Ties (Strong/weak)	When there is a connection between two or more people, a relationship is formed (Haythornthwaite, 1996). Actors are linked by a relationship when they maintain the relationship. A tie is formed from all the relationships maintained by pairs of actors. These ties can either be strong or weak. The strength of a tie is determined by the frequency of interaction, the level of intimacy and the emotional bonds that link the actors.	Enterpreneurship Theories, Social Capital Theory, Network Resource Theory, Agency Theory, Relationship Theories, Social Position Theory	Scott (1991); Haythornthwaite (1996); Granovetter (2005); Redd (2014)
Flow (Resources)	This involves the distribution of resources between actors which normally occurs along network paths created through relationships between actors. These resources can be in the form of information, social contacts, practical help, collaboration opportunities and cognitive resources, funding, etc.	Enterpreneurship Theories, Social Capital Theory, Network Resource Theory, Agency Theory, Relationship Theories, Social Position Theory, Capability Theory, Dynamic Theory, Network Governance Theory	Scott (1991); Borgatti (2005); Borgatti & Halgin (2011); Davis (2012)
Operating and support mechanisms			
Governance	This refers to the management and coordination of affairs of the network. This should include information about the formation and sustenance of the network. The power mechanisms usually lie with the management team. The governance also undergirds and coordinates exchanges within the network	Enterpreneurship Theories, Social Capital Theory, Network Governance Theory, Economic Theories, ICT Usage Theories, Social Position Theory, Capability Theory, Dynamic Theory, Social Position Theory, Transaction Theory, Governance Theories, Uncertainty Theory, Feminist Theories	Hoang & Antoncic (2003); Provan and Kenis (2008); Borgatti & Halgin (2011); Bonner & Spooner (2011)
ICT (Mobile Tech, Internet, Social media, PCs)	ICTs are technologies that are used to create, store, retrieve, transmit and manage information. Thesed ICT tools assist in facilitating and enhancing the activities within the network and also from the network to other women entrepreneurs.		Jain, (2006); ICRW (2012); Ajjan et al. (2014); Masika (2014); UNCTAD (2014); Salvador et al. (2014); Jenner (2015)
External Support	This involves resources outside the network that are pulled into the network for actors to benefit from. These resources are provided by the governing and operating body or by external stakeholders. They are in the form of training programmes to enhance skills, financial assistance, emotional support and legitimisation.	Enterpreneurship Theories, Social Capital Theory, Network Resource Theory, Agency Theory, Relationship Theories, Social Position Theory, Capability Theory, Dynamic Theory, Network Governance Theory	Bierema (2005); Lin, 2008; Bonner & Sponner (2011); Spring (2009)
Outcomes from network			
Contribution (to W.E. Development)	This involves the contribution of the FWBNs to the development of women entrepreneurs in terms of their personal growth and business performance and can be visible through impact and growth of the network.	Entrepreneurship Theories, Social Capital Theory, Agency Theory, Dynamic Theory	Bonner & Sponner (2011); Spring (2009); Davis & Abdiyeva (2012); Kim (2014); UNCTAD (2014)
Personal Benefits (to W.E.)	This refers to the benefits derived by women network members. It could be in form of social capital and legitimisation.		Gabbay & Leenders (1991); Portes (1998); Dawson et al. (2011); Kim (2014)

Figure 1: Literature summary of elements within a FWBN and related theories (Sourced from Ajumobi (2018))

The following section discusses the steps and approach followed to develop the framework.

3. Research approach - developing a holistic and integrated framework and model to understand FWBNs

To develop the framework and model proposed to examine FWBNs, this study, adopted guidelines provided by Whetten (1989) and Gregor (2006). As noted by Sutton and Shaw (1995), theory is referred to with several terms, however, it should be noted that in this paper, a framework and a conceptual model are also referred to as theory (Gregor, 2006). Gregor (2006) and Whetten (1989) argue for principles and guidelines that should be considered and accounted for when developing or evaluating theories. The discussion by these authors are extensive and cannot be entirely outlined in this current article, however, Table 1 provides a summarised version of the guidelines proposed as well as how they have been accounted for in this study. The integrated framework in Figure 2 and the conceptual model in Figure 3 is the result of following these guidelines.

Table 1: Guidelines for developing theories by Whetten (1989) and Gregor (2006)

Guidelines for developing theories by Whetten (1989) and Gregor (2006)	How they have been accounted for in this study
First, express the what, how and why of the theory (Whetten, 1989)	These aspects have been accounted for in the following ways: 1. By outlining theories related to the phenomenon in the literature review as well as the development and presentation of the integrated framework which has drawn on the theories highlighted 2. By developing the conceptual model from the integrated framework created above 3. By discussing the theoretical perspective that can be used to assess, measure and explain the constructs and the relationships presented in the model
Explicate the scope (who, where, when) of the theory (Whetten, 1989; Gregor, 2006):	The scope of the theory is defined by the application of this model to the study of FWBNs with the adoption of the configuration theory and its principles. Propositions formulated to test the model also provide a scope for the theory
Third, articulate the purpose/goal of the theory (Gregor, 2006)	This framework and conceptual model have been created to analyse and explain phenomena (Gregor, 2006). In this context, the phenomena in focus is FWBNs, particularly regarding their structure and the nature of interplay and relationships between the elements highlighted for FWBNs

					Expected Outcomes
Base Theory (Social Network Theory – SNT)	Social Network Theory (SNT)				
Proposed Core/ Nodal elements/ concepts of a network	Actors [Position]	Relationships/Ties	Structure	Resources [Flow]	Contribution and Personal Benefits
Other Theories	• Culture Theory • Disadvantage Theory • Motivation Theory • Entrepreneurship Theories • Social Capital Theory • Agency Theory • Relationship Theories • Capability Theory • Dynamic Theory • Social Position Theory	• Entrepreneurship Theories • Social Capital Theory • Network Resource Theory • Agency Theory • Relationship Theories • Social Position Theory	• Entrepreneurship Theories • Social Capital Theory • Network Governance Theory • Economic Theories • ICT usage Theories • Capability Theory • Dynamic Theory • Social Position Theory • Transaction Theory • Governance Theories • Uncertainty Theory • Feminist theories	• Entrepreneurship Theories • Social Capital Theory • Network Resource Theory • Network Governance Theory • Agency Theory • Relationship Theories • Capability Theory • Dynamic Theory • Social Position Theory	• Entrepreneurship Theories • Social Capital Theory • Dynamic Theory • Agency Theory
Theorised Nodal and non-nodal elements/ concepts of a network	Actors [Position] [Demographic Attributes] [Networking Approach]	Relationships/Ties	Structure [Governance] [ICTs]	Resources [Flow] [External Support]	Contribution and Personal Benefits

Figure 2: Integrated theoretical framework to examine FWBNs (Sourced and Adopted from Ajumobi (2018))

3.1 Proposed conceptual model and theoretical lens to examine FWBNs

Following the discussion and presentation on the various theories that can increase understanding of and aid research enquiries involving formal women business networks, this paper presents a conceptual model of the key elements in FWBNs. This model as shown in Figure 3 serves as contribution to theory that explains the relationship and interplay between the key elements in FWBNs. The creation of this model/theory has been based on the guidelines provided by Whetten (1989) and Gregor (2006) for establishing or testing theories.

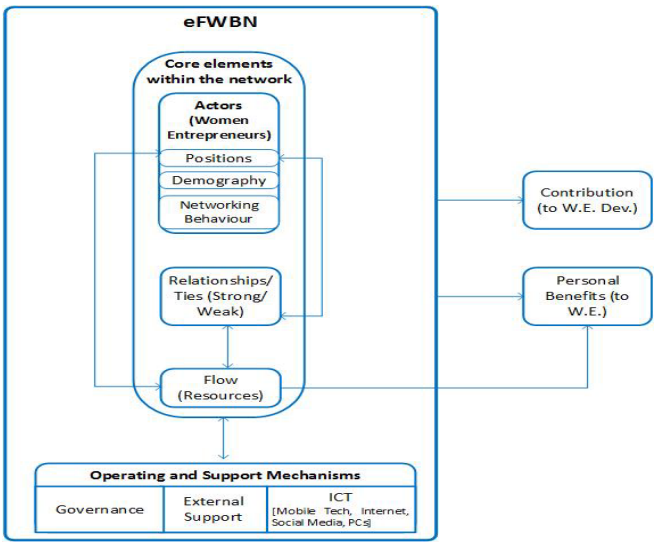

Figure 3: Proposed conceptual model to examine FWBNs (Sourced and Adopted from Ajumobi (2018))

We argue that within a FWBN, there will be core elements as proposed by SNT (Haythornthwaite, 1996; Borgatti & Halgin, 2011). These core elements are actors, relationships and ties between the actors, and flow of resources between the actors and within a network. Actors within a network will have various positions (Borgatti and Halgin, 2011), be of different demographics and networking behaviour (Ibarra, 1993; Sharafizad, 2014; Greguletz, Diehl, and Kreutzer, 2019). These different attributes of an actor will impact the ties/relationships the actors have and the flow of resources (Borgatti and Halgin, 2011). As shown in the model, this will be a bidirectional relationship. Furthermore, the relationships based on the nature of the ties will influence how resources flow within the network and vice versa (Lin, 2000; Semrau et al., 2014). Just as there are core elements within a network, there will be operating and support mechanisms (OSMs) like governance, ICTs and external support. These three elements will impact the core elements within the network and the overall structure of the network. For example, the use of ICTs can influence how relationships are formed or maintained and the flow of resources (UNCTAD, 2014; Crittenden, Crittenden and Ajjan, 2019). Also, the nature of external support and the resulting resources can determine how resources exist within the network and the resulting actors within the network (Turrini et al., 2010; Ajumobi and Kyobe, 2017). Governance is proposed to not only influence the core elements within the network, but also other OSMs like ICTs and external support (Human and Provan, 2000; Turrini et al., 2010). Lastly, the core elements and OSMs will ultimately influence the outcomes of FWBNs (Villesèche and Josserand, 2017; Ajumobi, 2018). The outcomes being - the nature of the contribution FWBNs make to the growth, performance and success of women entrepreneurs and their businesses; and the perceived benefits reported by the actors within the network.

To examine such interplay and unpack the dynamics that will be present within a FWBN, we propose adopting the configurational approach. The configurational approach holds the assumption that an organization will have certain elements such as leadership, structure, technology, and environment, that drive other elements within an organization and form a configuration that produces different outcomes (Miller, 1987; Meyer et al., 1993). Depending on the nature of the interplay between the elements and the configuration, different organisations will have different outcomes (Miller, 1987; Meyer et al., 1993). To fully understand or examine the configuration and resulting outcomes in an organization, it must be done in a holistic manner such that the patterns that have created the interplay and organization can better understood (Meyer et al., 1993; Fiss, 2007). Furthermore, to measure or understand this configuration, the interplays with the configuration and the resulting outcomes, a bidirectional view, as opposed to a linear view needs to be adopted (Fiss, 2007).

With FWBNs being a form of organization, we propose that to unpack them, understand the elements that interact within them, and the outcomes that result from this interaction, they need to be studied from a holistic, and configurational perspective. For example, the interplay between actors and the governing structures, or the use of ICTs and the nature or exchange of resources between actors within a network will not be linear and will not exist by itself - it will influence and be influenced by the configuration of the network. Hence, a holistic and bidirectional measurement of FWBNs and the elements within them can provide insights and understanding

that can help FWBNs support their networks, and actors/members better, as well as help stakeholders with relevant and better suited initiatives and support measures for FWBNs.

4. Conclusion

This study's goal was to highlight the limitations of existing frameworks and theories on women entrepreneurs and FWBNs. To this end, we developed a framework and model that can guide future research enquiries on FWBNs. The new holistic and integrated framework has adapted from theories such as SNT (as the core theoretical foundation), entrepreneurship theories, governance theories, to mention a few. With the new framework and model, research studies can explore and explain the relationship and interplay between elements such as actors, relationships, flow, governance, external support, ICT usage and network contribution and benefits within FWBNs. With insights from such studies, improved theoretical views and discussions can be added to the body of knowledge about networks and women entrepreneurs. Practically, with understanding about the nature of FWBNs and how this results in contribution to women, governments, organisations, funders, and women entrepreneurs can provide better support that will consequently lead to improved support and benefits to women entrepreneurs. We acknowledge that in the current paper, not all aspects have been duly discussed, thus, future studies can further explore the needs and experiences of women entrepreneurs and how they can be linked to professional networks. We also recommend that the model proposed in this study be tested within empirical settings to further our understanding about FWBNs.

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Reflections on Racism Against Women of Color Faculty in Academia

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Abstract: In this article, we utilize autoethnographic methods and a literature review to report on themes regarding female social work faculty members who identify as women of Color (WOC) and their experiences with racism and White supremacy within predominantly White institutions in the United States. These experiences are not unique to any particular institution or university, but rather reflect systemic racism and the upholding of White supremacy in higher education throughout the United States. We highlight the differential vulnerability faced by WOC women in academia, which are often unaddressed in the pursuit of what is seen to be an egalitarian or colorblind merit review. Utilizing autoethnographic techniques and bearing in mind our own positionalities, we share personal narratives regarding our own marginalization within White spaces and the emotional labor that we are often asked to carry for the institutions within which we work. Themes include experiences of tokenization or assumed intellectual inferiority. Given the current sociopolitical moment and the heightened awareness of diversity, equity and inclusion efforts within universities, institutions of higher education must move beyond simply hiring more people of color or conducting diversity trainings to ensuring that WOC are more fully included in their roles within universities as faculty, administrators, staff and students.[1]

Keywords: racism, academia, faculty, women of color, tenure, promotion

1. Introduction

Disparities regarding the treatment and pay of women have been well documented in scholarship on higher education in the United States (U.S.; Burke et al, 2005; Porter et al, 2008). Campuses have been depicted as having a "chilly professional climate" for women (Sandler & Hall, 1986, p. 3). Women are less likely to be tenured or promoted compared to male faculty and also earn less than their male colleagues (Winkler, 2000). Men are more likely to hold higher academic ranks and administrative posts and will therefore occupy positions that evaluate, reward, and punish women (Barbezat & Hughes, 2005; Bellas, 1999).

Similarly, women of color (WOC) faculty also have experienced hardships in recruitment, hiring, tenure, and promotion within universities. Systemic racism entails recurring and unequal relationships within institutions (Feagin, 2013). Political agendas within institutions may engage Black and Brown bodies implicitly as property, enforcing what has been called "a direct model of plantation politics" (Dancy et al, 2018, p. 187).

University administrators may claim that the lack of diversity within faculty is caused by a dearth of qualified minority candidates. Yet, according to the National Science Foundation (2015), in the past decade enrollment in doctoral education by U.S. citizens or permanent residents who are Black has increased by 31% and enrollment by those who are Latinx has increased by 71%. As Gasman (2016, p.1) noted, "The reason we don't have more faculty of color among college faculty is that we don't want them. We simply don't want them."

Higher education in America is largely reflective of a deep commitment to the degradation of people of color as fundamental to the maintenance of a colonial or imperial order (Dancy et al, 2018). Notably, universities in the U.S. were initially created to educate the offspring of colonizers and may implicitly still serve to recreate the settler colonial state (Thelin, 2004).

Black and Brown faculty are more likely to be treated unfairly in the areas of training opportunities and promotion; are more likely to be targets of workplace discrimination; and are more likely to have difficulty in accessing informal professional networks (Durr & Wingfield, 2011). These social connections and networks help to shape, fund, and advance scholarship, making it easier for some faculty to navigate and succeed in academia.

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WOC women faculty within predominantly white institutions (PWI) experience additional tensions in academe (Rideau, 2019) as institutional oppression is based on both axes of race and gender. While the overall number of female faculty has increased within institutions of higher education, the number of WOC female faculty has remained a small proportion (National Research Council, 2013). WOC women account for only about a tenth of faculty members at four-year institutions (National Center for Education Statistics, 2018). Implicit assumptions of superior intellectual and professional competency are automatically assigned to White men and women (Turner & Gonzales, 2011). WOC women faculty are the lowest paid demographic among faculty, earning less per dollar than White men (67 cents), White women (81 cents), and men of color (72 cents; McChesney, 2018).

Drawing from Crenshaw (1991) and Collins' (2000) conceptual framework on intersectionality, we analyze how positionalities of race, class, and gender shape multiple dimensions of lived experience for WOC women who are faculty in the U.S. We draw from one of the central tenets of critical race theory (CRT), which argues that racism is an everyday American experience (Razack & Jeffery, 2002). As Bell (1995) argues, CRT recognizes that revolutionizing a culture begins with a radical assessment of it. In this vein, we attempt to offer a radical assessment of the racism and White supremacy in institutions of higher education in the U.S.

2. Methodology

Our methodology in this paper is autoethnographic and a literature review (Ellis et al., 2011). Autoethnography can be conceptualized as both process and product. It is an approach to research that describes and systematically analyzes personal experience in order to understand cultural experience (Ellis et al., 2011; Ellis, 2004). Autoethnographic investigations follow from a postmodern perspective that challenges positivist paradigms of objective truth. Autoethnographers recognize the ways in which personal experience influences the research process by determining when, where, and how research is conducted (Ellis et al., 2011). Rather than assuming that the emic anthropological perspective is inherently biased in gathering empirical information, autoethnography instead focuses on the importance of the researcher's perspective as a fundamental means of collecting and understanding lived experiences.

To be fully transparent about the ways in which our own identities contribute to how we view social constructs regarding race, class and gender, we also wish to explain our own positionalities. Given that these identities may have influenced our research process, we engage in reflexivity regarding our own backgrounds, not in an attempt to silence our own perspectives, but rather to recognize and appreciate their influence on our social and cultural views. The first author identifies as an Indian, Muslim American woman, who has primarily worked in social policy and clinical social work practice pertaining to HIV, mental health and addiction treatment, as well as for city and state public health departments. The second author identifies as a southern African American/Black Christian woman, wife, and mother who has practiced in the following areas: medical social work, counseling in a psychiatric hospital within the department of corrections, child protective services, and clinical counseling with sexual trauma services.

While the two of us differ in our racial/ethnic identities, household compositions, religions, and institutional affiliations, our experiences as WOC women social work faculty remain unquestionably similar. We dissect these experiences as WOC in this paper. We do not seek to analyze these experiences from a deficit-based model that solely envisions people of color as being perpetually at a disadvantage. Instead we argue that operating from a bicultural perspective equips WOC with skills that aid them in critically examining their institutions and moving beyond white-dominant notions of educational leadership to more culturally responsive approaches.

It may also be helpful to first define how we are using the acronym WOC. We have explicitly chosen to use this acronym in this paper as it refers to a wide swath of women, including Black, Indigenous, Latina, and Asian and Pacific Islander women. The term WOC also holds political relevance as a means of creating solidarity among culturally and ethnically diverse communities. In the following sections, we will review themes from our autoethnographic experiences and from a review of the literature on the treatment of WOC faculty members in institutions of higher education. We arrived at the following themes from an analysis of the evidence base on race and gender-based disparities in higher education, as well as incorporating our own perspectives and personal experiences with these issues.

3. WOC women carry the university's emotional labor

There are several ways in which WOC women carry additional emotional labor for the university. WOC women professionals have reported feeling that they must transform themselves to be welcomed and accepted in the workplace; additionally, they may feel perpetually judged for their appearance, personal decorum, communication skills, and emotional regulation (Durr & Wingfield, 2011). WOC women often suffer from "race fatigue" (Harley, 2008, p. 19) as a result of being overextended and undervalued in the areas of teaching, research, and particularly service. WOC women are sought out by administrators as instructors, mentors, and stars for diversity brochures. Padilla (1994) refers to this phenomenon as cultural taxation, or the additional service that falls upon WOC women faculty to serve their institution's needs.

Faculty of color also spend more time than their White colleagues in mentoring students (Rideau, 2019). Teaching and service generally entail substantial amounts of emotional labor, but this labor is not seen to be a valued skill and is therefore poorly rewarded by the academic merit system (Bellas, 1999). Students of color also seek out WOC women faculty for advising and educational/career counseling. WOC women faculty are often strongly committed to supporting students of color. As WOC faculty ourselves, we often agree to take on additional mentoring roles (and their associated risks) as we see it to be "paying it forward" for those mentors who helped us navigate our own way through academia. However, caring for marginalized students is another method by which we experience identity taxation (Rideau, 2019). The added burden of supporting marginalized students can also entail assuming adding risks (Rideau, 2019) within university systems.

Since the pandemic, WOC pretenure faculty have carried additional emotional burdens from supporting students of color who are distressed, honoring requests for guest lectures, and providing consultations regarding current events. But of course, that added labor goes unreflected in our annual merit reviews and remains unrewarded by tenure and promotion processes. There is also no way to quantify the pain we feel when hearing about the struggles of our students who are WOC because often those struggles are our own. Advocating for these students of color often involves the kind of advocacy we wish we had received ourselves as graduate students. While WOC faculty are often asked to "step up" to support marginalized students, we may need to "step back" to ensure that we are able to meet our own research, teaching and service obligations at the university (Ventura & Wong, 2020).

Additionally, women often bear the brunt of family caregiving responsibilities (Neufeld & Harrison, 2003). Women faculty, and particularly WOC faculty, are no exception to this gendered norm (Hart, 2016). Prior to and through the COVID-19 pandemic, many WOC women faculty have been responsible for childcare, homeschooling of children, or caretaking of aging family members, a responsibility that differentially impacts the productivity of women over men (Krukowski et al, 2021). Throughout the pandemic, distinctions between work life and home life have been blurred as faculty offer online Zoom classes and participate in service committees from their living rooms, sometimes while also providing care for family members or coordinating their children's online schooling at home. Interestingly, even in those instances where WOC faculty may begrudgingly take on additional service responsibilities through peer or institutional pressure, the narrative of the interaction may be recreated to portray women as naturally more giving, more altruistic, less concerned with their own career advancement, and more committed to collectivistic causes. These reductionist renderings of gendered roles and racialized expectations equate WOC to be the mammies (Collins, 2000) or the maids (Harley, 2008) of their universities, upholding moral virtuousness and "cleaning up the mess," as it were, but not necessarily demonstrating academic prowess.

4. WOC women are tokenized

A common thread for WOC faculty is the awareness of working within contexts that explicitly or implicitly promote the socially constructed myths of White male superiority. As Anderson (2015) noted, some spaces, including much of American academia, are perceived to be White spaces, which are informally off limits for people of color, and even more so for WOC. When a WOC woman enters a White space, others try to make sense of her, to determine whether they need to be concerned (Anderson, 2015) or threatened. Without regular contact with communities of color, stereotypes regarding WOC become the norm, estranging us from our work settings and from our peers. Others describe us as hostile, aggressive, confrontational, entitled, argumentative, angry. Yet we do not notice the same critiques made of even our most outspoken White peers. Both authors have experienced exclusion from networks that not only teach unwritten cultural rules, but also help faculty build connections with other colleagues, university administrators, funders, and community members.

An implicit bias permeates our interactions within university settings, depicting us as perpetually threatening or foreign to the existing social order. Both authors have been mistaken for secretaries and been asked to make photocopies for other professors. The second author has walked into academic spaces and been mistaken for a custodian and asked to dump the trash. Both authors have been told by multiple people, with genuine surprise in their eyes, how articulate we are or how well we speak English. Both authors have experienced moments when students are surprised to find that we are their instructors. A student has tersely told the second author to move her belongings on the front desk in the classroom to a different location to make way for the professor, only to be surprised to find that she was already speaking to the professor. The second author has had several incidents of students being taken aback with referring to her by the title of "Dr.", while the same students do not express issue with referring to White faculty in the same manner. The first author has experienced multiple instances of sexual harassment at academic conferences, where senior faculty and search committee chairs wave job openings at their institutions as proverbial carrots on sticks for their unwelcome sexual forwardness. The first author has also had other scholars refer to her research as "exotic," reflecting the perpetual Orientalization and fetishization that often permeates studies conducted in Asian contexts and particularly those involving women (Azhar et al, 2021; Azhar et al., 2020; Aziz & Azhar, 2019; Said, 1979).

WOC faculty are also disproportionately asked to serve on committees (Bellas, 1999) and assigned greater clerical or administrative tasks within those committees. Committee service entails the need for communication skills and interpersonal skills, which often promote an emotionless notion of professionalism. Particularly when serving on diversity and inclusion committees for our institutions, we became painfully aware of how we may be perceived by others and may need to soften our criticisms of systemic flaws, lest they be misconstrued as entitled, privileged, or ungrateful. WOC faculty, administrators, and staff are often interrupted, ignored or unrecognized in meetings. Over time, this may lead WOC who choose to remain in academia to either move from one academic institution to another to avoid systemic discrimination or resign themselves to dysfunctional racialized and gendered dynamics among university faculty and employees at multiple institutions. If they do remain at institutions for the longer term, they may continue to be shut down and their actions may be minimized by their White colleagues.

5. WOC women are seen as complainers

WOC women are discouraged from speaking out about these instances for fear of retaliation from faculty at their current institutions or from being blacklisted from potential employers at other institutions. "This will ruin your career" and "It's a small world in academia" are mantras that have been used to instill fear in voicing a complaint and encourage silence. The fear of an unknown future is used to justify uncomfortable or unfair working conditions. When WOC do in fact make a complaint or vocalize a grievance about inequitable treatment, their issues are often dismissed.

Affirmation bias permeates the social structure of the work environment for faculty who are WOC. Formal complaints by WOC are likely to be deemed irrational, hypersensitive, and emotional WOC women faculty are subtly reminded that we should just be happy to have "a seat at the table," but refrain from desiring full inclusion. Our justified emotions of frustration are heralded as the hostile and aggressive rants of angry WOC (Duncan, 2014), reinforcing old and damaging tropes. Defensiveness may also ensue as faculty members and administrators assume that by making a critique of systemic oppression, we are individually accusing them of racism. A lack of differentiation, indeed the ecological fallacy at play, is made between saying, "This university system is racist" and "You, individual White faculty member, are racist."

Beyond explicit discrimination, our more common experiences with racism are everyday microaggressions. Microaggressions are defined as race-specific interactions with themes of criminality and incompetence directed toward African Americans and themes of perpetual foreignness and invisibility directed toward Asian Americans (Sue et al, 2008). In academic settings, microaggressions may take the form of White faculty confusing the few WOC faculty or students with one another through seemingly naïve comments like, "You look just like [insert name of the other woman of color in the department]." It is demonstrated when the achievements of WOC women are intentionally or unintentionally absent from group recognition. Even the very usage of the term *micro*aggression may serve to minimize the scale and impact of these perpetual insults against us because the usage of the prefix "micro" may be misinterpreted to refer to the magnitude of the interaction, rather than the frequency and routineness with which these insults occur.

During moments of crisis, like the current pandemic, inequitable service expectations are also often conferred on WOC women faculty. Refusing to accommodate these service requests can be misconstrued as a lack of desire to be a "team player" or to be seen as ungrateful for one's privileged place as a faculty member of color in a PWI. Diversity, equity and inclusion trainings are increasingly popular in the current moment, but typically only occur in one time and at one place, serving as the implicit justification for ongoing acts of systemic racism. More importantly, these trainings have largely been proven to be ineffective at changing racial attitudes and behaviors within institutions in the long term (Cocchiara et al, 2010). Their presence is more likely to serve institutional interests in protecting liability from workplace discrimination than actually fostering an environment that promotes race and gender equity.

Additionally, many institutions of higher education have created what have been termed "safe spaces" or "brave spaces" (Palfrey, 2017) for people of color to more freely discuss those issues that impact them. But a rebranding of the name of the space does not make it any safer nor braver. Unquestionably these spaces can serve as a refuge for students of color in an environment that can be perpetually hostile. But as Ahmed (2012) notes, the very creation of these relegated spaces serves as the rebuttal for the fact that social exclusion and marginalization permeate all other social interactions for people of color. Indeed the creation of an anti-racism task force is the validation that systemic racism does in fact exist within the university.

6. Discussion

In the final section of this paper, we provide a brief set of recommendations for meaningful social change in academia and provide action-oriented suggestions for how to work towards accomplishing these goals.

Table 1: Recommendations to address racism in academia

Assess the Institutional Climate
Encourage Critical Reflection and Counter-Storytelling
Encourage Institutional Support and Mentorship of WOC Faculty and Students
Reconsider Faculty Workloads and Tenure Expectations
Give Space for WOC Women Faculty, Students and Staff to Grieve and Recover

6.1 Assess the institutional climate

In order to analyze the structural conventions that uphold White supremacy and marginalize faculty, staff and students of color, academic departments, schools, and universities need to conduct an assessment of their institutional climate. Part of this critical assessment would require examining recruitment, hiring, mentoring, retention and promotion efforts, and the extent to which these efforts include WOC students and faculty members. Such assessments must also involve honest evaluations of leadership and the ways in which institutional management has potentially contributed to the maintenance of White supremacy. Following an assessment, the next steps would include examining how Whiteness plays out in the school's strategies for program marketing, admission criteria, and graduation trends for students of color.

6.2 Encourage critical reflection and counter-storytelling

A function of education is to promote critical thinking, which should include efforts to decenter Whiteness within institutions in order to promote diversity, difference, and inclusivity. The adoption of counter-storytelling, or the practice of using alternative stories regarding communities of color, can also be an effective tool to challenging dominant narratives (Solórzano & Yosso, 2001). A diverse faculty strengthens any institution through the adoption of a richer curriculum and deeper engagement on race and gender in faculty committees and meetings (Gasman, 2016). A diverse faculty can hold the university accountable in ways that uplift people of color (Gasman, 2016) and decenter Whiteness. University leaders need to critically examine how racism, sexism, and gender-based oppression are reproduced within institutions and have often been the historical precedents to the very creation of these institutions.

6.3 Encourage institutional support and mentorship of WOC faculty and students

WOC women faculty need unique support and resources that are designed to address the isolating effects of being the only person of the color in the room, on the committee, or in the department. Providing support to WOC faculty and students also requires an appreciation for mental health disparities among racial/ethnic minority students. Recent research has shown that people of color are at increased risk for both experiencing

discrimination and experiencing mental health issues (CDC, 2020; Ruiz et al, 2020). Black and Latinx people report higher rates of depression, anxiety, and trauma-related symptoms as a result of the pandemic than White people (CDC, 2020). Similarly, greater than 30% of Asian-American adults say they have experienced interpersonal racism since the pandemic began (Ruiz et al, 2020). To address these disparities, we must conduct mental health outreach to racial/ethnic minority students, including doctoral students. These students must also be provided opportunities to be actively involved in the design and change of school policies that directly impact them.

6.4 Reconsider faculty workloads and tenure expectations

Expectations for tenure/promotion reviews must consider structural inequities by gender and race/ethnicity. Recent discussions regarding one or two year extensions to the tenure clock acknowledge the challenges to productivity elicited by the pandemic, but only do so by delaying the decision of *when* faculty will be evaluated. These extensions may provide extra time to adjust research efforts, but may affect faculty and administrator perceptions of whether faculty are "on track" for academic success. Ultimately, the standards by which faculty are assessed for tenure and promotion decisions remain the same, albeit delayed. If faculty take the additional year in their tenure review, this essentially equates to a pay cut as junior faculty are prevented from assuming the salary increase associated with receiving tenure and promotion, typically following the seventh year of university service in the United States. This too may arguably serve to maintain standards that ultimately uphold White male supremacy as universities are unable to adequately respond to the differential burdens that the pandemic has placed on WOC women, and in particular WOC women who serve are caregivers. Additionally, several universities do not offer affordable childcare services to faculty, staff and students, again creating a greater burden on women who are parents, particularly of young children. Perhaps a better way to adjust work expectations is to adjust tenure expectations by a year, such that women can still be promoted on time and without being forced to sacrifice a promotional salary increase. Efforts should also be made to identify and reduce pay disparities across faculty rank by race and gender. Such discussions are often laced with hesitation, shame and desires for confidentiality regarding income, so should be approached in a guarded manner.

6.5 Give space for WOC women faculty, students and staff to grieve and recover

In the midst of one of the most tumultuous social and political years of our lives, it is important for university faculty and administrators to give WOC faculty, students and staff opportunities to grieve, rest, recover, rejoice. Experiencing joy is an act of resistance against the narratives that tell us that we are destined to fail, fated to be oppressed, and condemned to subjugation. Allow for the expression of joy in the classroom, joy in the field, even joy in the committee meeting. This is not to say that we simply smile and withstand our agony. But we "must include feelings of pleasure such as laughing and experiences of joy even within the traumatic existence of exploitation" (Shimizu, 2016., p.319).

7. Conclusion

In sum, a more inclusive university will require intentional shifts in power dynamics that create pathways for women of color to thrive within academia. Ultimately, as social work faculty members, we are deeply committed to the pursuit of social justice, which we define here to be equity and fairness in the distribution of social resources (Fouad et al., 2006). Social justice refers to how advantages and disadvantages are distributed to individuals in society (Miller, 1999). Operating from a perspective of social justice emphasizes structural issues, namely equity, interdependence, and social responsibility (Bell, 1997). Given that the notions of equity and fairness are highly subjective within institutional settings, operationalizing these terms can be challenging. But we must stand ready for this challenge. And we must stand ready to face the institutional obstacles and risks that advocating for these changes will inevitably entail.

As we have already outlined, one of the fundamental ways to help create a paradigm shift is the development of critical consciousness amongst our faculty, staff and students regarding the nature of power relationships within society and how these dynamics shape individual perceptions and biases (Gutierrez & Lewis, 1999) within university settings. It would be irresponsible for social workers to ignore the ways in which we may act as agents of social control, rather than agents of social change (Saugeres, 2000). Social workers working in mental health, criminal justice, and child welfare settings need to confront the ways in which juvenile justice systems, jails, prisons, psychiatric hospitals, homeless shelters, and foster care systems have contributed to racial disparities in health, education, housing, and employment. We need to move beyond giving credit for our good intentions

to acknowledging our bad consequences. In order for us to engage in meaningful and lasting social change, social workers must come to terms with the ways in which our profession has participated in historical systems that have normalized and institutionalized racism and White supremacy, often blaming racial/ethnic minority groups for their own poverty and social marginalization. Our commitment as social workers has always been to the most vulnerable within society. To ignore the centrality of intersectional racism and sexism in determining social inequity would be a disservice to ourselves and to our beloved profession.

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Gender Board Composition and Performance in Italian Start-Ups

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Abstract: Literature on start-ups has mainly involved functional and education diversity of top teams; gender has been neglected, most likely because of the low presence of women in technological firms. Also, extant research has overlooked the role of female representation in start-ups' boards, despite boards represent a key piece in the puzzle that enables the functioning and survival of new firms. Building on this gap, we aim to investigate the following research question: *are gender-related variables in the board of innovative start-ups correlated with better performance*? We employ a novel dataset of 3,257 Italian innovative start-ups founded between 2012 and 2018, and we run eight OLS regressions to estimate performance as a function of measures of female representation. Our results provide evidence of a positive relation of gender-related variables with performance. Specifically, we find that gender diversity is related to an efficient use of assets (ROA), while the shares and the number of females are related to an efficient use of capital (ROE). We also detect a non-linear exponential relation between the number of females in the board and ROE: as more women serve in the board, returns on equity grow more than proportionally. Our paper contributes to the literature on board composition and start-up performance by providing new evidence on the role of female representation.

Keywords: start-ups, firm performance, gender diversity, board, Italy

1. Introduction

Board composition is recognized as a critical element in how decisions are undertaken, which ultimately impacts on firm performance (Adams *et al.*, 2010). A large body of literature has specifically dealt with female representation in boards and firm performance, finding mixed empirical evidence (Post and Byron, 2015). The decision-making process at the top level is especially crucial for start-ups (Colombo and Grilli, 2010; Shrader and Siegel, 2007), as early-stage entrepreneurial decisions may have an important effect on survival and performance. Despite the crucial role of boards in start-ups' functioning and survival, its composition has been studied mostly in terms of outside status, while diversity has been neglected (Li *et al.*, 2020); in particular, gender board composition of start-ups is rarely investigated, most likely because women are underrepresented in young start-ups (Dai *et al.*, 2019). This paper contributes to this stream of literature by addressing the relation between female representation in boards and financial performance of innovative start-ups.

Many scholars have focused on whether different dimensions of human capital (e.g. education, industry experience) in the boards of start-ups are correlated to firm performances (Li *et al.*, 2020). Since start-ups have leaner organizations, the linkage between boards and performance is stronger (Shrader and Siegel, 2007). One important dimension that affects how boards take decisions is diversity, since diverse boards bring heterogeneous resources, which may improve decision-making. As female representation in apical managerial positions increases, literature has considered gender as a relevant demographic dimension of board diversity, but results regarding its effect on performance are mixed (Post and Byron, 2015). The relevance of the issue is clear: since there are still few women in boards (Bennouri *et al.*, 2018), providing evidence that their increased representation boosts firm performance would have practical implications for managers and policy makers, even if we do not consider the purely ethical importance of more females on boards (Campbell and Mínguez-Vera, 2008).

Our empirical analysis is based on a dataset of 3,257 Italian *innovative start-ups* founded between 2012 and 2018, supported by a specific law (D.L. 179/2012). We estimate their performance in 2019 as a function of female representation in boards. We also investigate the curvilinear relation between females in boards and performance to assess whether there is a "critical mass" effect of female representation (Joecks *et al.*, 2013). Our preliminary results provide evidence of a positive relation of gender-related variables with performance.

We offer new insights on the relation between female representation in boards and performance in two novel ways. First, the bulk of studies mainly look at listed large firms (Carter *et al.*, 2010; Fernández-Temprano and

Tejerina-Gaite, 2020). Second, existing research is mostly based in US, and, for Italy, it is focused on the mandatory gender quota for listed companies (Bennouri *et al.*, 2018). Hence, as far as we know, this study is the first one to investigate the role of female representation in boards of start-ups on their financial performance.

The paper is organized as follows. Section 1 reviews the literature on female representation in the board and firm performance. Section 2 develops the hypotheses. Data and methodology are presented in Section 3, while results are deployed in Section 4. Finally, Section 5 draws the conclusion.

2. Theoretical framework

The issue of whether female representation in boards affects performance has been investigated under the broader umbrella of the relation between board diversity and firm performance. Women are found equally competent and qualified along many dimensions (Terjesen *et al.*, 2009), but they may have gender-specific characteristics that increase board diversity, such as in terms of previous working experience or approaches to problems (Bart and McQueen, 2013; Dai *et al.*, 2019).

Different theories have been used to study the relationship between female representation in boards and firm performance. These theories explain one or more mechanisms thanks to which board diversity may ultimately affect firm performance; however, it seems that no single theory predicts whether such relation should be positive or negative (Carter *et al.*, 2010).

According to agency theory (Carter *et al.*, 2003), diversity may increase the capacity of the board to act independently in its crucial function of monitoring managers. Alternative theories point out that a well-functioning board is primarily based on the presence of a range of expertise (e.g. finance, knowledge of the technology), as for example highlighted by the theories based on human capital (Terjesen *et al.*, 2016; Volonté and Gantenbein, 2016). Also resource dependence theory has been used in this context, according to which diverse boards are better able to create linkages with external stakeholders to bring resources internally (Ali *et al.*, 2014); this aspect could be particularly important for new ventures that lack internal resources.

Upper echelons theory (UET) posits that executives differ in their cognitive frames, which in turn influence firm outcomes (Hambrick, 2007). Executives have different experiences and personalities that strongly influence their evaluation. Hence, the characteristics of boards will influence firm performance. The cognitive frames of the top executives are very difficult to measure, but demographic dimensions (e.g. race or gender) have been demonstrated to be valid proxies (Post and Byron, 2015).

Finally, in the context of innovation, the resource-based theory of the firm (RBT) (Barney, 1991) offers additional insights on why the demographic characteristics of the board may influence firm performance. Human capital and organizational resources are especially difficult to imitate and explain superior performance of firms (Galbreath and Galvin, 2008). Therefore, diverse boards constitute a unique bundle of resources to be leveraged against competitors.

3. Female representation: Empirical evidence

The empirical evidence of whether female representation in boards affects firm performance is mixed: positive (Ahmadi *et al.*, 2018; Campbell and Mínguez-Vera, 2008; Carter *et al.*, 2010; Darko *et al.*, 2016; Green and Homroy, 2018; Isidro and Sobral, 2015; Joecks *et al.*, 2013; Reguera-Alvarado *et al.*, 2017; Rubino *et al.*, 2021; Vieira, 2017), negative (Ahern and Dittmar, 2012; Joecks *et al.*, 2013; Luanglath *et al.*, 2019), and non-significant (Adams and Ferreira, 2009; Campbell and Mínguez-Vera, 2008; Fernández-Temprano and Tejerina-Gaite, 2020).

The evidence is mostly based on US companies, and on European countries that introduced mandatory law for female quotas in listed companies such as Norway, Spain, and Italy (Ahern and Dittmar, 2012; Campbell and Mínguez-Vera, 2008; Isidro and Sobral, 2015). The majority of studies use listed companies. An exception is Gloor et al. (2020), who study the impact of board member composition on new venture success; here, the female share in the board has not been found relevant.

Empirical studies differ also in the measures of female representation and performance, which partially explain the heterogeneity of results. The majority of these works use the simple share of females in the board, some works use a dummy of whether there is at least a woman, or dummies for 2 or at least 3 women, as well dummies

for 30% threshold (Campbell and Mínguez-Vera, 2008; Green and Homroy, 2018; Isidro and Sobral, 2015; Joecks *et al.*, 2013). Some studies differentiate between female presence in committees, or between independent and executive females (Carter *et al.*, 2010; Rubino *et al.*, 2021). Other studies use diversity index, such as Blau's and Shannon's (Campbell and Mínguez-Vera, 2008; Joecks *et al.*, 2013; Luanglath *et al.*, 2019; Reguera-Alvarado *et al.*, 2017). In terms of firm performance, studies have considered mostly market performance (e.g. Tobin's Q), and accounting measures (e.g. return on assets, returns on equity, return on sales, market-to-book equity ratio).

Finally, there is a group of studies that detect a relation that vary depending on the number of females. This is related to the critical mass theory. For example, Schwartz-Ziv (2017) finds that the presence of three or more women on the board has a greater impact on performance than boards with two or fewer women. Joecks et al. (2013) find a U-shaped relation, for which 30 per cent of women in the board is the threshold after which firm performance becomes positive.

Technological new ventures rely heavily on increasing the variety of knowledge base, and successfully integrate such knowledge (Dai *et al.*, 2019). The creative process benefits from knowledge and experience of the individuals within organizations, included the top level (Grant, 1991). Women on boards increase the diversity since they have different approaches to problems, they take less risky decisions, and they have different socialization experiences, career paths, and social networks with respect to men. In addition, although predominantly male fields such as IT sectors may constitute a barrier to women, start-ups are leaner and less structured than established firms, hence power struggles and biases are less intense. In start-ups women may have more opportunities to effectively impact on board decisions and firm performance since in such environments their different perspectives and insights represent valuable and rare resources (Dai *et al.*, 2019). Therefore, we expect that:

H1 Female representation in terms of diversity will be positively correlated to firm performance.

H2 Female representation in terms of presence will be positively correlated to firm performance.

In addition, we build on critical mass theory stating that group has a voice when there is minimum number of similar members (Joecks *et al.*, 2013). Hence, we also test for non-linear relation between the number of females and performance:

H3 Female representation in terms of presence will have a curvilinear relation with firm performance.

4. Data and methodology

4.1 Sample

An *innovative start-up* is a particular form of joint stock company regulated by the Italian law (Decreto legge 179/2012) aimed at supporting the whole lifecycle of new young firms with high-tech content, and high-growth potentials[1].

From the database AIDA by Bureau van Dijk, in July 2021 we collected Italian active innovative start-ups that were funded between 2012 and 2018[2]. The initial dataset downloaded contains some variables of interest such as: company name, incorporation year, industry classification by NACE Rev.2, return on asset in 2019, return on equity in 2019, number of employees in 2019, number of current directors and managers who specified their gender and age. These pieces of information were used to create the relevant variables at the firm level. In particular, the individual-level information on board members were aggregated in meaningful variable at the firm-level. The final sample is composed from 3208 start-ups.

It is noticeable that after 2013 the number of firms funded each year rapidly increases. Although the year reporting highest frequency is 2017 (i.e., 1017 start-ups), the highest growth rates are concentrated in the period between 2014-2016. This may be explained by the fact that, although the law was introduced in 2012, it took some time for entrepreneurs to react to the related incentives and leverage the law by creating new start-ups. Regarding the sectors, manufacturing ones represent only 19.3% of the total sample. Within these latter, high-tech and medium-high tech account for 60%. Non-manufacturing sectors represent the majority of firms

[1] https://www.mise.gov.it/index.php/en/202-news-english/2033818-italy-a-smart-choice-for-innovative-startups
[2] We include firms with non-zero employees in 2019, 2018 or 2017 to exclude too small or problematic firms.

(80.7%). In particular, 42.67% of the total sample is classified as "Computer programming, consultancy and related activities". Regarding the size of the *start-ups* within the sample, firms show a low number of employees, and this is coherent with their young age. Specifically, the range of employees go from 0 to 176, with an average of 1.24. Usually, the only employee is the director who also is the founder or has the full ownership of the firm. In terms of revenues, the average amount is 114 thousand euro, with a maximum of about 3.5 million of euro in 2018.

4.2 Dependent variables

Following extant research (Campbell and Mínguez-Vera, 2008), we use two measures of financial performance, which are return on asset in 2019 (*ROA2019*) and return on equity in 2019 (*ROE2019*). ROA is calculated as net income divided by total assets and reflects how efficiently firms use resources to generate profits. ROA is a more balanced view of profitability compared to traditional metrics. ROE is measured as the net profit divided by shareholders' equity. It measures the capacity of the firm to transform the invested capital into income. ROE does not consider the risk that financial leverage creates.

4.3 Key independent variables

Blau_index is an index of heterogeneity calculated as:

$$B = 1 - \sum p_i^2$$

where *p* represents the proportion of each *i* category (which is male and female) on total board members. The Blau's index is obtained by subtracting to 1 the sum of the squared proportions. The index ranges from zero, representing homogeneity in the board, to 0.5, representing maximum gender diversity (Campbell and Mínguez-Vera, 2008). *Homophilia* is a dummy variable equals to 1 when all members are of the same gender, 0 otherwise. *ShareFemale* is the proportion of females in the board. *DM_F* represents the number of women in the board. We also use the squared term (*DM_F*^{2}) to test for non-linearity.

4.4 Control variables

The models include a set of controlling variables. *Board_size* represents the total number of directors and managers, which is generally found negatively related to performance (Joecks *et al.*, 2013). *DMAge* represents the mean age of directors and managers, as older members may have more experience (Fernando *et al.*, 2020). We control for firm age (*Log_age*, taken in the logarithm), as the capacity to generate profit increases in older firm (Delgado-Márquez *et al.*, 2017). *Log_size* is the number of employees in 2018, taken in logarithm. From literature, we can expect a positive significant effect of size on performance measures (Fernando et al., 2020). Following the classification of Eurostat based on NACE Rev. 2 at 2-digit level of manufacturing firms, we control for high-tech (*high*), medium-high tech (*medhigh*), medium-low tech (*medlow*), and low-tech (*low*) sectors. Non-manufacturing firms (*No_manu*) account for primary, extraction and service sectors. This category is used as benchmark. Table 1 reports all the variables used with main statistics.

Table 1: Summary statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
ROA2019	3,106	-6.91	45.58	-741.05	152.72
ROE2019	2,534	4.52	45.95	-149.84	149.54
board_size	3,208	1.56	1.35	1	30
log_age	3,208	0.58	0.49	0	1.79
DMAge	3,204	46.67	10.83	21	88
log_size	2,815	0.44	0.69	0	517.61
blau_index	3,208	0.03	0.12	0	0.5
homophilia	3,208	0.91	0.28	0	1
sharefemale	3,208	0.17	0.35	0	1
DM_F	3,208	0.25	0.55	0	15
DM_F^2	3,208	0.37	406.46	0	225
high	3,208	0.03	0.17	0	1
medhigh	3,208	0.08	0.27	0	1
medlow	3,208	0.02	0.16	0	1

Variable	Obs.	Mean	Std. Dev.	Min	Max
low	3,208	0.05	0.21	0	1
no_manu	3,208	0.80	0.39	0	1

4.5 Methodology

Our main model of interest is firm performance as a function of different measures of female representation on the board, and a set of controls. Since we have two measures of performance and four measures of female representation on boards, we run eight OLS regressions with the same controlling variables, and robust standard errors. In particular, we estimate the following general model:

$$\textbf{\textit{Perf}} = \beta_0 + \beta_1 board_size + \beta_2 log_age + \beta_3 DMAge + \beta_4 log_size + \beta_j fem_repr + \beta_i sector + \varepsilon$$

where ***Perf*** represents the two dependent variables used as proxies of the performance of firms (i.e. ROA and ROE) in 2019. *Board_size*, *log_age*, *DMAge* and *log_size* are the control variables as described above. ***Fem_repr*** designate the four measures of female representation on boards (i.e. *blau_index*, *homophilia*, *sharefamale*, *DM_F* and DM_F^2), and ***sector*** the four dummies for manufacturing sectors (i.e. *high*, *medhigh*, *medlow*, and *low*); ε is the error term.

5. Results and discussion

We check the correlations of our variables which do not raise concerns about multicollinearity[3].

Table 3 shows the regression results. For ROA, we have significant results for the heterogeneity indicators. Blau's index is positively significant at 1% level. *Homophilia*, consistent with the Blau's index, is negative and significant. This suggest that firms with gender board diversity are more efficient in using assets compared to firms that incorporate homogeneous boards. Neither the shares of females nor the number of women (and its quadratic term) are statistically significant.

For ROE, gender diversity is not statistically significant, while we have significant results for the female presence. *ShareFemale* has a significant and positive relation with the capacity of the firms to create value for shareholders. Both number of women in the board (*DM_F*) and its squared version (DM_F^2) result to be positive and significant, which suggests a non-linear exponential relation between the number of females and ROE. As the number of women in the board increases, the relation with performance becomes stronger. Ceteris paribus, any additional woman in the board increases the ROE by 4.07 percentual points up to a certain level, after which the contribution to ROE of each added female would be further 0.38 percentual points in ROE. In sum we found that H1 is supported for ROA, H2 and H3 are supported for ROE.

In terms of control variables, *board_size* resulted to be negative and statistically significant in both ROA and ROE. The age of the firm (*log_age*) is significant and negative only in ROE models, in line with previous findings (Isidro and Sobral, 2015). In both ROA and ROE, *log_size* is positive and statistically significant, suggesting that larger firms achieve higher performance. As for technological sector, medium-high tech firms have higher performance in terms of ROA.

Table 2: Regression models

	ROA	ROA	ROA	ROA	ROE	ROE	ROE	ROE
VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
board_size	-1.809***	-1.862***	-1.235***	-1.775***	-3.408***	-3.400***	-2.988***	-4.422***
	(0.557)	(0.598)	(0.478)	(0.555)	(1.080)	(1.146)	(0.921)	(0.855)
Log_age	2.095	2.099	2.184	2.207	-5.849***	-5.838***	-5.801***	-5.717***
	(1.539)	(1.540)	(1.539)	(1.539)	(2.104)	(2.105)	(2.101)	(2.099)
Log_size	2.140**	2.133**	2.112**	2.036**	7.070***	7.068***	6.995***	6.786***
	(0.884)	(0.884)	(0.885)	(0.887)	(1.375)	(1.374)	(1.381)	(1.366)
DMAge	-0.0388	-0.0389	-0.0390	-0.0335	-0.0621	-0.0623	-0.0513	-0.0438
	(0.0679)	(0.0679)	(0.0689)	(0.0687)	(0.0925)	(0.0925)	(0.0926)	(0.0926)
blau_index	14.50***				9.718			

[3] The correlation table is not displayed. It is available upon request.

	ROA	ROA	ROA	ROA	ROE	ROE	ROE	ROE
VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	(4.933)				(8.341)			
homophilia		-6.038**				-3.650		
		(2.443)				(3.942)		
shareFemale			1.029				6.252**	
			(2.274)				(2.771)	
DM_F				1.832				4.079*
				(1.677)				(2.186)
DM_F^2				0.145				0.388**
				(0.114)				(0.160)
high	2.802	2.787	2.833	2.857	-0.933	-0.944	-0.557	-0.790
	(2.587)	(2.588)	(2.599)	(2.609)	(4.682)	(4.682)	(4.728)	(4.726)
medhigh	3.369**	3.354**	3.216*	3.291*	4.934	4.912	4.652	4.924
	(1.702)	(1.703)	(1.693)	(1.692)	(3.258)	(3.258)	(3.250)	(3.246)
medlow	3.996	3.927	3.720	3.815	0.0893	0.0197	0.0566	0.125
	(2.901)	(2.899)	(2.898)	(2.898)	(5.012)	(5.012)	(5.032)	(5.001)
low	-3.922	-3.915	-3.936	-4.005	-9.755*	-9.728*	-10.19*	-10.09*
	(4.400)	(4.399)	(4.357)	(4.378)	(5.254)	(5.249)	(5.215)	(5.226)
Constant	-4.089	2.062	-4.613	-4.345	13.91***	17.61***	12.09**	13.91***
	(3.720)	(4.406)	(3.909)	(3.807)	(4.731)	(6.495)	(4.813)	(4.715)
Observations	2,740	2,740	2,740	2,740	2,240	2,240	2,240	2,240
R-squared	0.007	0.007	0.005	0.006	0.021	0.021	0.023	0.026
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1								

As a further step, in Figure 1 we show the marginal effect of the number of females in the board on ROE, with 95% confidence interval. We can observe the non-linear relation found in the estimations. As the number of females increases, ceteris paribus, ROE grows more than proportionally.

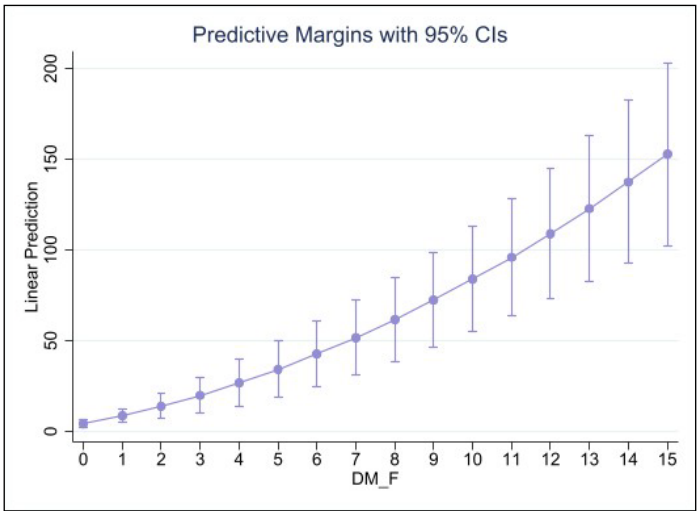

Figure 1: Marginal effects between the number of females in boards and ROE

6. Conclusion

Our findings show that female representation in boards is positively correlated to firm performance. In particular, firms with heterogeneous boards seem to be more efficient in using assets (i.e. ROA), while firms incorporating boards with more women seem to be more efficient at using the shareholders' capital (i.e. ROE). Our results on ROA and gender diversity reveal a mechanism for which women increase innovation in start-ups via greater knowledge differentiation and integration at the level of board (Dai *et al.*, 2019). As women have different career paths than men, and different cognitive frames to identify opportunity (DeTienne and Chandler, 2007), gender-diversified boards favour innovation and facilitate the transformation of assets into profit. In addition, start-ups have to navigate greater uncertainty (Goldfarb *et al.*, 2018) compared to established firms and when dealing with uncertainty, creative solutions may be extremely valuable (Gilson *et al.*, 2005). Finally,

the presence of women has been found to improve peer monitoring between genders in boards (Schwartz-Ziv, 2017), so that gender-balanced teams make better decisions regarding the management of assets.

Our results on ROE and female presence suggest that women in corporate boards may be more efficient at using shareholders' capital as they pursue fewer risks in investments; these less risky decisions do not reduce firm competitiveness, but instead make firms more profitable (Chen *et al.*, 2016; Nadeem *et al.*, 2019). Such insight may be particularly valuable for start-ups, which have limited resources and need to carefully select their investment choices and adopt a more balanced risk attitude. We also find an exponential relation between women and ROE, so that as female representation into the boards increases, firm efficiency in managing capital increases more than proportionally. This may be explained by the fact that each additional woman amplifies the voice of the other women (i.e. critical mass theory) (Schwartz-Ziv, 2017) and, as women show specific characteristics (e.g. in terms of risk and investment attitudes) firms with increased female representation may be able to draft more carefully planned and informed decision-making processes, thus positively affecting firm performance.

Our findings contribute to extant research that points to the advantages of increasing female representation within corporate boards (Post and Byron, 2015). The empirical literature on the relation between female representation (i.e. gender diversity or female presence) and performance is mixed. Such literature has mainly focused on US and on listed companies, while our study has provided novel results by looking at an Italian sample of SMEs with high-growth potentials as identified by a specific regulation. We believe that this is a novel contribution that responds to a call for more research on gender board composition in entrepreneurial firms (Li *et al.*, 2020). Our study is not without limitations, as we have provided preliminary evidence of a relation that requires further investigation. First, our study suffers from endogeneity; as the supply of female managers and directors in start-ups is lower, women may self-select into better firms. Longer time-period and panel structure may partially correct for that. Second, endogeneity may come from omitted variable bias. Controlling for other sources of board diversity (e.g. education, social network) or other dimensions of the board (e.g. role of venture capital, family ownership) may help to understand to what extend gender matters.

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How Does the Institutional Context Affect the Risk of Substitution Faced by Women and men?

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Abstract: This paper aims to investigate how the institutional context considered in light of the level of gender equality explains the difference in the risk of substitution faced by men and women. To this end, the probability of automation of European occupation is estimated and it is analysed how it is influenced by the gender of the worker. We found that in contexts where gender equality is higher, female workers face a lower risk compared to contexts with a lower gender equality. However, the protection enjoyed by female workers is reduced in less egalitarian contexts because, due to barriers regarding the participation in formal and non-formal education and training, women are not able to acquire the necessary skills to protect themselves from the risk of substitution.

Keywords: automation of occupations, technological change, unemployment, institutional context, gender

1. Introduction

In recent years, the world of work has undergone radical transformations, in large part driven by automation technologies (i.e., artificial intelligence, big data analytics and robots). Advances in these technologies have in fact occurred exponentially (Skrbiš and Laughland-Booÿ, 2019) and due to their increasing ability to perform work activities they can now potentially replace workers in a growing number of occupations, both low-skill and high-skill (Blanas et al., 2019; Wajcman, 2017). As a result, automation technologies have caused shifts in the occupational structure, the place and the timing of work, and career patterns (Brussevich et al., 2019). In the future automation technologies will continue to transform work and many workers will lose their job (Skrbiš and Laughland-Booÿ, 2019; Spencer, 2018).

While much research has been done concerning the consequences of automation technologies on work including the estimation of the probability of automation of occupations and impact on various occupational groups (e.g., Arntz et al., 2016; Nedelkoska and Quintini, 2018; Pouliakas, 2018), limited attention is paid to how outcomes differ between women and men (Rodriguez-Bustelo et al., 2020). The few existing studies that consider the impact of automation on male and female workers have yielded conflicting results. In Europe men are more at high risk since they usually perform more automatable tasks and occupations with a higher probability of automation (Pouliakas, 2018). Instead in OECD countries, men face a lower risk (Nedelkoska and Quintini, 2018). Previous studies have thus shown that men and women are more or less at risk of substitution depending on the context. However, these analyses do not thoroughly investigate how the institutional context considered in light of the level of gender equality is determinant in explaining the difference in the risk of substitution faced by men and women.

This article addresses this gap by developing a gender perspective on automation, considering how these developments interact with existing social inequalities, gendered barriers and gender segregation patterns in the labour market in different European countries. Specifically, the aim of this paper is to analyse how the institutional context affects the risk of substitution faced by male and female workers.

In this paper, in the first phase the probability of automation of European occupations is estimated by applying the task-based approach. Then, the relationship between the probability of automation and gender is examined considering the institutional context in which male and female workers operate.

2. Literature review

2.1 The impact of automation on female workers

Different opinions have emerged about how automation will impact on the work performed by female and male workers. According to some authors (Delgado Cadena, 2020), automation will affect women more negatively than men. On the contrary, other authors (Pampliega, 2019) state that women will be less affected since they are not present in science and technology sectors, despite some authors (García-Holgado et al., 2019) note that it is precisely the absence in these sectors that represents a disadvantage for women and could massively expel women from the labour market. It has been found that the simple adoption of automation technologies to perform simple routine tasks will have adverse effects on female workers (Delgado Cadena, 2020). In addition, the low presence of women in technology sectors and STEM education programs (Shook and Knickrehm, 2018) will cause the loss of their jobs (Delgado Cadena, 2020).

2.2 The probability of automation of occupations faced by female and male workers

In the literature it has been estimated the probability of automation of occupations and how it has been examined how this probability is affected by socio-demographic characteristics of the worker, including its gender.

To estimate the probability of automation of occupations two main approaches can be applied: according to the occupation-based approach, whole occupations can be automated; according to the task-based approach, work activities instead of entire occupations can be automated. The occupation-based approach has been criticized for various reasons: entire occupations are only rarely eliminated due to automation (Bessen et al., 2020); within an occupation the tasks performed by workers vary considerably (Autor and Handel, 2013) so that workers face different risks of automation depending on the tasks they perform (Arntz et al., 2016).

In the estimation of the probability of automation, it is necessary to consider the following aspect. Despite recent progress in the automation technologies enabling more tasks to be automated than in the past, there are still three *Engineering bottlenecks* that prevent the automation of some non-routine tasks (Frey and Osborne, 2017). These technical limitations are linked to three capabilities: perception and manipulation (i.e., the ability to handle objects and to orient oneself in complex situations), creative intelligence (i.e., the ability to produce new and valuable ideas) and social intelligence (i.e., the ability to respond to a person in an empathetic way) (Arntz et al., 2016; Frey and Osborne, 2017). Since the tasks requiring these skills will not be automatable in the next two decades, the probability of automation of an occupation can be estimated as a function of these capabilities (Frey and Osborne, 2017).

In addition to estimating the probability of automation of occupations, some studies have analysed how this probability is influenced by socio-demographic characteristics of the worker (e.g., age, gender, education) and job-specific factors (e.g., type and size of firm, type of contract, training) (Nedelkoska and Quintini, 2018; Pouliakas, 2018).

Regarding *gender*, conflicting results have emerged. In Europe male workers face a higher risk of substitution since they usually perform more automatable tasks and occupations with a higher probability of automation (Pouliakas, 2018). On the contrary, female workers tend to carry out non-automatable tasks (Pouliakas, 2018). In OECD countries, men face a lower risk of substitution since female workers are more active in occupations with a lower probability of automation but they perform more automatable tasks (Nedelkoska and Quintini, 2018). These mixed results suggest that the relationship between gender and the probability of automation is influenced by the type of occupation and the work activities performed. Moreover, the institutional context seems to affect this relationship.

2.3 The influence of the institutional context

We argue that the different impact of automation technologies on women, including the risk of substitution faced, could be explained considering the gender gaps in the tasks carried out at work, the segregation by gender regarding occupations, and, more generally, the barriers faced by women in accessing a certain occupation (Piasna and Drahokoupil, 2017).

Based on relevant literature, the study aims to analyse how the institutional context affects the risk of substitution faced by male and female workers.

3. Empirical setting

3.1 Data

The database used in this study is the European Skills and Jobs Survey (ESJS) for 2014. It contains information about 49,000 adult workers (24-65 years) employed in different occupations and sectors in the 27 European countries and the United Kingdom. Information regards aspects such as: socio-demographic characteristics of the worker, job characteristics, job-skill requirements, skill mismatches, participation in training, labour market outcomes.

3.2 Method

In this study, for estimating the probability of automation of European occupations, the task-based approach is applied and the methodologies proposed by Frey and Osborne (2017) and by Nedelkoska and Quintini (2018) are followed. First, the probability of automation is estimated. Then, the relationship between this probability and gender is examined.

To estimate the probability of automation, a training set is built by assigning to some occupations a dummy variable equal to 1 if it can be automated and 0 otherwise. Labelled occupations are based on those considered by Frey and Osborne (2017). Some examples are provided in Table 1.

Table 1: Automatable and non-automatable occupations

Automatable occupations	Non-automatable occupations
Sales workers	Chief executives, senior officials and legislators
Customer services clerks	Cleaners and helpers
Drivers and mobile plant operators	Health professionals
Food preparation assistants	Legal, social and cultural professionals
General and keyboard clerks	Teaching professionals

Source: our elaboration

Then, the variables of the database that describe the capabilities that cannot be automated – i.e., perception and manipulation, creative intelligence and social intelligence – are selected (Table 2). The selection is provided by Pouliakas (2018).

Table 2: Variables corresponding to the capabilities that cannot be automated

Technical limitations to total automation	Variables
Perception and manipulation	Technical skills
Creative intelligence	Problem solving skills, Learning skills, Learning tasks, Non-routine tasks, Autonomous tasks
Social intelligence	Team working skills, Planning and organisation skills, Foreign language skills, Communication skills, Customer handling skills

Source: our elaboration based on Pouliakas (2018) and ESJS database

Finally, the probability of automation of occupations is estimated using a Gaussian process classifier: a model is built based on the training set and is then applied to estimate the probability of automation of all European occupations.

Once the probabilities of automation are estimated, a logistic regression is run with the aim to examine the relationship between this probability and gender, controlling some worker and job characteristics. Specifically, the following model is estimated:

*Probability of automation = ƒ (gender, gender*institutional context, socio-demographic characteristics, job-specific factors, occupational and industry-specific variables)*

The institutional context is measured with the Gender Equality Index for the 2017 provided by the European Institute for Gender Equality (EIGE). This index measures gender equality taking into account also aspects such as work and knowledge (which regards educational attainment and training).

3.3 Variable definition

Two sets of variables are used in the analysis. The first one includes the variables used to estimate the probability of automation of occupations (Table 3).

Table 3: Description and sources of variables used for estimating the probability of automation

Variable name	Variable definition	Source
Perception and manipulation		
Technical skills	Categorical variable describing the importance of the skill, with 0 = "Not at all important", 5 = "Moderately important", and 10 = "Essential"	ESJS
Creative intelligence		
Autonomous tasks	Categorical variable describing the frequency of this task, with 1 = "Never", 2 = "Sometimes", 3 = "Usually", and 4 = "Always"	ESJS
Non-routine tasks	Idem	ESJS
Learning tasks	Idem	ESJS
Learning skills	Categorical variable describing the importance of the skill, with 0 = "Not at all important", 5 = "Moderately important", and 10 = "Essential"	ESJS
Problem solving skills	Idem	ESJS
Social intelligence		
Communication skills	Categorical variable describing the importance of the skill, with 0 = "Not at all important", 5 = "Moderately important", and 10 = "Essential"	ESJS
Customer handling skills	Idem	ESJS
Foreign language skills	Idem	ESJS
Planning and organisation skills	Idem	ESJS
Team working skills	Idem	ESJS

Source: ESJS database

The second set of variables regards those used to analyse the relationship between the probability of automation and gender (Table 4).

Table 4: Description and sources of variables used to analyse the impact of socio-demographic characteristics of the worker and job-specific factors

Variable name	Variable definition	Source
Dependent variable		
Probability of automation	Variable describing the probability of automation and taking a value between 0 and 1, estimated in the first phase	Our estimate
Independent variables		
Gender	Dummy variable taking the value 1 if the worker is male, 0 if female	ESJS
Institutional context	Gender Equality Index	EIGE
Control variables		
Socio-demographic characteristics of the worker		
Age	Age of the worker	ESJS
Education	Categorical variable describing the highest level of education or training completed by the worker, with these levels: "No completed education", "Low education", "Medium education", "High education"	ESJS
Vocational qualification	Dummy variable taking the value 1 if the worker has received some learning in the workplace (e.g., through apprenticeships, internships, or other forms of work-based learning) or if the highest qualification was a vocational qualification, 0 otherwise	ESJS
Skills	Worker's level of skills compared to that required for the job (self-assessment)	ESJS

Variable name	Variable definition	Source
Job-specific factors		
Private company	Dummy variable taking the value 1 if the worker is employed in "A private company or partnership", 0 otherwise	ESJS
Firm size	Categorical variable describing the size of the organization, with these levels: "It varies", "Micro and small firm", "Medium firm", "Large firm"	ESJS
Years in job	Number of years in total the worker has been working for your current employer	ESJS
Weekly hours	Average number of working hours per week	ESJS
Indefinite contract	Dummy variable taking the value 1 if the worker is employed on an "Indefinite/permanent contract", 0 otherwise	ESJS
Training	Dummy variable taking the value 1 if the worker attended training courses (work-based, classroom based and online), 0 otherwise	ESJS
Training reasons	Dummy variable taking the value 1 if the worker attended training courses stay up-to-date with changing skill needs of the job or to perform better at the job, 0 otherwise	ESJS
Occupation- and industry-specific variables		
Occupational class	Categorical variable describing the occupation of the worker	ESJS
Industry routine level	Categorical variable describing the routine intensity of the industry, with these levels: "Very low routine-intensive", "Low routine-intensive", "Medium-low routine-intensive", "Medium-high routine-intensive, and "High routine-intensive"	ESJS

Source: our elaboration

4. Econometric results

The correlation matrix shows acceptable correlation indexes (Greene, 2003). The econometric results are presented in Table 5.

Table 5: Econometric results

	Model 1	**Model 2**
Predictors	*Estimates*	*Estimates*
Intercept	0.6268 *** (0.0130)	0.6100 *** (0.0134)
Gender	-0.0119 *** (0.0009)	0.0245 *** (0.0070)
Institutional context	0.0002 *** (0.0001)	0.0005 *** (0.0001)
Gender * Institutional context		-0.0006 *** (0.0001)
Age	0.0001 *** (0.0001)	0.0001 *** (0.0001)
Education: Low education	-0.0071 (0.0093)	-0.0065 (0.0093)
Education: Medium education	-0.0009 (0.0093)	-0.0002 (0.0093)
Education: High education	-0.0050 (0.0093)	-0.0042 (0.0093)
Vocational qualification	-0.0082 *** (0.0012)	-0.0082 *** (0.0012)
Skills	-0.0002 *** (0.0000)	-0.0002 *** (0.0000)
Private company	0.0129 *** (0.0010)	0.0128 *** (0.0010)
Firm size: Micro and small firm	0.0057 (0.0051)	0.0058 (0.0051)
Firm size: Medium firm	-0.0033 (0.0052)	-0.0032 (0.0051)
Firm size: Large firm	-0.0068 (0.0052)	-0.0068 (0.0052)

	Model 1	Model 2
Years in job	-0.0002 *** (0.0001)	-0.0002 *** (0.0001)
Weekly hours	-0.0006 *** (0.0000)	-0.0006 *** (0.0000)
Indefinite contract	0.0028 ** (0.0012)	0.0028 ** (0.0012)
Training	-0.0044 *** (0.0013)	-0.0044 *** (0.0013)
Training reasons	-0.0167 *** (0.0012)	-0.0167 *** (0.0012)
Occupational class: Building, crafts or a related trade person	-0.0162 *** (0.0016)	-0.0159 *** (0.0016)
Occupational class: Clerical support	0.0011 (0.0013)	0.0012 (0.0013)
Occupational class: Elementary occupations	-0.0073 *** (0.0017)	-0.0070 *** (0.0017)
Occupational class: Manager	-0.0112 *** (0.0015)	-0.0111 *** (0.0015)
Occupational class: Plant and machine operator and assembler	-0.0163 *** (0.0062)	-0.0159 ** (0.0062)
Occupational class: Professional	0.0124 ** (0.0061)	0.0127 ** (0.0061)
Occupational class: Sales, customer or personal service worker	0.0198 *** (0.0065)	0.0198 *** (0.0065)
Occupational class: Skilled agricultural, forestry and fishery worker	-0.0371 *** (0.0062)	-0.0371 *** (0.0062)
Occupational class: Technician or associate professional	0.0026 (0.0063)	0.0030 (0.0063)
Industry routine level: Low routine-intensive	-0.0318 *** (0.0061)	-0.0319 *** (0.0061)
Industry routine level: Medium-low routine-intensive	0.0211 *** (0.0061)	0.0214 *** (0.0061)
Industry routine level: Medium-high routine-intensive	-0.0237 *** (0.0075)	-0.0233 *** (0.0075)
Industry routine level: High routine-intensive	-0.0141 ** (0.0061)	-0.0140 ** (0.0061)
Observations	48648	48648
R^2	0.105	0.106
** p<0.1 ** p<0.05 *** p<0.01*		

Gender has a negative coefficient in Model 1 (b = - 0.0119, p < 0.01), meaning that female workers face a lower risk of substitution compared to male ones. Institutional context has a positive coefficient (b = 0.0002, p < 0.01 in Model 1). Model 2 reports the interaction effects of *Gender* and *Institutional context*. *Gender* has a positive coefficient in model 2 (b = 0.0245, p < 0.01) and *institutional context* has a positive coefficient (b = 0.0005, p < 0.01). The regression results reveal a negative and significant coefficient of the interaction (b = - 0.0006; p < 0.01), implying that in contexts where gender equality is higher, female workers face a lower risk compared to contexts with a lower gender equality. Instead, the protection enjoyed by female workers is reduced in less egalitarian contexts because due to barriers regarding the participation in formal and non-formal education and training, women are not able to acquire the necessary skills to protect themselves from the risk of substitution. As a consequence of these barriers, women are segregated into occupations that have a higher probability of automation or, when employed in occupations with a lower probability, they perform more routine tasks than in more egalitarian contexts.

Control variables also yield interesting results.

5. Discussion

Society must respond to changes due to automation (Spencer, 2018) by designing targeted policies that minimize the negative consequences of automation technologies on negatively affected workers. Our analysis shows that to guide future labour policies it is important to assess the differential impacts of automation for women and

men. In fact, policy makers must prepare both male and female workers for the future. Action should be taken to prevent automation from worsening existing gender inequalities in the labor market. In fact, gender relations in new forms of work and employment interact with the persistent disparities in the workplace associated with gender discrimination (Piasna and Drahokoupil, 2017). As long as technological change leaves social relations of gender unchanged, a continuity and reproduction of gender inequalities is to be expected and policies must avoid this. The employability and the career advancement of women in occupations with a low probability of automation must be promoted. To this aim, supporting programs aimed at female workers must be designed, flexible work arrangements should be offered, and effective labour protection frameworks must be set up. The goal is to assure that women are equally able as men to access occupations that protect them from the risk of substitution. More generally, we need to encourage equal access of women and men to quality jobs and their equal treatment at work.

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Project_Gender Action Plans in Academia

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Abstract: Research on the implementation of positive actions and gender mainstreaming in academia reveals a fragmented patchwork in adopting strategies and policies. Even when national policies guarantee uniformity in adopting Gender Equality Plans (GEPs), this does not always lead to substantial changes in research and innovation teams and management structures. Our study was inspired by the EU's requirement that research and innovation projects submitted to calls for proposal in the Sixth Framework Program (2002-2006) include a Gender Action Plan (GAP), covering all measures and activities promoting gender equality within each project and explaining gender issues associated with the project's subject matter. Although the requirement has been discontinued in the following Framework Programmes, the idea of a GAP at the project level raised interest in the scientific community. Our article reports on the roadmap and the construction phases to implement a Gender Action Plan at the project level (P-GAP). A new European project funded under the Erasmus+ European Universities initiative has been identified as a case study for its characteristic of involving different institutional areas: teaching, research and third mission. The P-GAP addresses all project activities, thus escaping the boundaries set by the siloed work package structure. By focusing on micro-actions at the project level, the P-GAP mirrors macro-actions at the organisational level. The purpose of the initiative was to understand whether activities inspired by GEPs but implemented at the project level encounter obstacles and resistance similar to those challenging the implementation of GEPs at the institutional level. By stimulating faculty, research, management, and administrative staff to promote gender equality and diversity, it can test challenges and difficulties, leading those involved in the micro-actions to become more assertive and proactive in transferring equality, diversity, and inclusion methods and strategies to institutional GEPs and academia at large. Partners' attitudes toward building the P-GAP were positive: they showed interest in the idea, contributed actively to plan several micro-actions and saw the potential to influence existing or new institutional GEPs indirectly.

Keywords: gender equality plan, Horizon Europe, positive actions, gender mainstreaming, gender action plan, project gender action plan P_GAP

1. Introduction

A Gender Equality Plan (GEP) aims to promote gender equality through institutional and cultural change: it enhances organisations' gender and diversity sensitivity. For public bodies, research organisations and higher education establishments, a GEP is a new eligibility criterion for access to Horizon Europe funding from 2022 (European Commission, 2021).

GEPs required by the EU must meet four mandatory requirements (defined *building blocks*): they must be a public document, have dedicated resources, include arrangements for data collection and monitoring, and be supported by training and capacity-building. For Universities that do not meet these requirements through at least one strategic document, the EU's requirement has accelerated a time-consuming process involving higher spheres, establishing working groups, and funding GEP construction. All the recommended steps in building a GEP are effective in a bottom-up approach. The need to build a GEP in a matter of months favours a top-down approach, at least in the initial construction of the plan. Even more importantly, a GEP requires complex organisations to accept structural change, and islands of resistance may occur.

It is essential to find ways of smoothing out this complex process by involving members at all levels of the organisation and, even, to innovate the policies' evaluation processes (Verge, 2021), since a GEP impacts research and teaching staff, managerial and administrative personnel, and students. GEPs are required by the EU at the institutional level(European Commission, 2012b, 2012a), while schemes like the Athena Swan Award (Xiao et al., 2020) (whose application form includes an action plan) also allow applications at the departmental level. This scaled-down process has enabled departments to proceed at their speed, in some cases anticipating the University's GEP, which requires more significant organisational effort and broader consultation. Nonetheless, the time scales for involving a department in creating a GEP from the ground up are incompatible with the EU current deadline.

This article describes the path towards an action plan implementing a set of micro-actions for gender equality at a project level, a P_Gender Action Plan (P_GAP) currently being developed and tested within a European University Alliance, titled Ulysseus. The model for the initiative was the EU's gender action plan, required for research and innovation projects submitted to the sixth framework program for research and technological development.

The assumption is that the P_GAP will help create and implement the GEP at the institutional level. The P_GAP allows researchers, administrative personnel, and even students involved in an EU-funded project to implement positive actions at the micro-level, introducing project participants to issues and contexts – at partner or Consortium level - similar to those experienced at the macro level within the institutional University GEP.

2. Background and framework

The principle of equality between women and men is laid out in article 3 of the Lisbon Treaty[1]. It underpins all European policies and is the basis for European integration. It applies in all areas.

Since 1982, the European Community has adopted a series of Action Programmes for Equal Opportunities. The First Community Action Programme (1982-85) developed a global policy for women's employment. The Second (1986-90) introduced a more diversified policy focusing on disadvantaged and socially underprivileged women. The Third Action Programme (1990-1995) sought to improve women's lives by increasing public awareness of gender equality issues, the image of women in mass media and women's participation in decision-making processes at all levels and in all areas of society. The Fourth Action Programme (1996-2000) concentrated on integrating gender into government policies. The Fifth Community Action Programme on Equal Opportunities (2001-2006) aimed to promote equality for men and women, particularly by assisting and supporting the Community framework strategy through the implementation of transnational projects. In the following years, the EU promoted several strategies: A roadmap for equality between women and men (2006-2010), the Strategy for equality between women and men 2010-2015. The Strategic Engagement for Gender Equality (2016 – 2019) identified 5 priority areas[2], and the analysis of the work performed led to the Gender Equality Strategy (2020-2025), through which the EU pursues a dual approach of gender mainstreaming combined with targeted actions. Intersectionality is a horizontal principle for its implementation.

Since 1984 the European Community has been funding research in the European Research Area (ERA) through multi-year grant programmes known as Framework Programmes for Research and Technological Development (abbreviated as FP1 to FP9; FP8 is known as Horizon2020 and FP9 as Horizon Europe). A few years after the launch of the framework programmes, in 1998, the European Commission introduced gender mainstreaming (European Commission, 2005b), a strategy designed to integrate gender issues into all Community policies and activities and reduce inequalities between men and women (Degraef, 2005; Dratwa, 2009).[3] At the same time, the European Council decided to include Community policy on equal opportunities in FP5 (1998-2002). Shortly after that, in 2000, the Commission began promoting studies on the gender impact of each funding programme, laying the foundation for an assessment of gender integration in FP5 (Hoogland, 1999).

Regarding funding for research and innovation, greater emphasis was placed on the gender dimension in FP6 than FP5, which became a priority issue at each stage of the project cycle. FP6 included three closely gender-related objectives for research: increasing the number of female researchers taking part in projects, ensuring women scientists are involved in assessment, consultation and implementation, and redesigning research to ensure it meets the requirements of both women and men. The Commission also raised the percentage of women on various committees, including assessment committees for project calls, aiming to increase the number of women in the database from 18% in FP5 to 40%. Specific reports and a summary of the findings from various spheres were also commissioned (European Commission, 2009).

The FP6 funded Research Performing Organisations - RPOs - and Research Funding Organisations - RFOs – to remove discriminatory barriers for women in their scientific careers and decision-making processes, helping research organisations implement gender action plans and include the issue of gender in their research.

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:12016ME/TXT&from=EN. Accessed 20 November 2021
[2] Details on all the programmes and strategies up to 2019 are available at the webpage: https://ec.europa.eu/newsroom/just/items/52696
[3] https://ec.europa.eu/employment_social/equal_consolidated/data/document/gendermain_en.pdf. Accessed 20 November 2021.

From FP7 onwards, dedicated programmes for GEPs were implemented: the Science in Society (SIS) programme in FP7 and the Science with and for Society (SwafS) programme in FP8, Horizon 2020, funded respectively Gender Action Plans - GAP (FP7) - and Gender Equality Plans - GEP (Horizon 2020).

GEPs merge positive actions and gender mainstreaming. Specific/positive actions favour particular groups of women, or men, and are "required in addition to gender mainstreaming policies to remove inequalities which have been identified or address particularly resistant problems" (European Commission, 2005a, p. 10).

Gender mainstreaming aims to make "gender equality part of this dominant (mainstream) trend in society so that women and men benefit equally. It means looking at every step of policy – design, implementation, monitoring and evaluation – with the aim of promoting equality between women and men" (European Commission, 2005a, p. 10). Furthermore, "[w]ith gender mainstreaming, came the call for policies that accommodate a diversity of circumstances accepting that age, ethnic origin, disability and sexual orientation, for example, also have implications for a person's ability to compete equally (European Commission, 2005a, p. 12). This respect for diversity, already identified and clarified when the EU first adopted gender Mainstreaming in the 1990s, is now included very clearly in Horizon Europe, for example via the request to include a perspective of intersectional analysis in research projects.

The EU is not the only source of financing or legislation promoting gender equality and diversity in academia and other public sectors. Some Member States also have initiatives such as charters or mandatory gender action plans at national level. To this end, we will limit our description to two examples.

The Athena Scientific Women's Academic Network (SWAN) Charter was launched in 2005 in the UK to advance the representation of women in Science, Technology, Engineering, Mathematics and Medicine disciplines (STEMM). In 2015 the Charter was expanded in the UK to facilitate applications from Arts, Humanities, Social Sciences, Business and Law disciplines (AHSSBL); in the same year, the Charter was launched in Ireland.

The Athena SWAN Charter covers all gender identities in academic roles in STEMM and AHSSBL, and professional, managerial and support staff roles, concerning their representation, the progression of students into academia, their journey through career milestones, and their working environment.

The Athena SWAN (AS) award is open to universities, departments and research institutes. The data needed for the award applications are collated and analysed by Self Assessment Teams (SATs), comprised of staff members from the institution/School/Department. The application includes an action plan, defining for each action the issues identified in the application, the success/outcome measure, the persons (or positions) responsible for the action, and a timescale.

In Italy, Equal Opportunities Committees (Comitati per le Pari Opportunità - CPOs) have been active in each public sector institution since 1988 (i.e., regional, provincial, municipal administrations, universities, local units of the national health system). In 2010, under Law No. 183, the CPOs were merged with the Committees for Protection against 'Harassment in the Workplace' to become "Comitato Unico di Garanzia per le pari opportunità, la valorizzazione del benessere di chi lavora e contro le discriminazioni" (CUG_Committee for the Rights of Employees), still mandatory in all Italian public sector organisations. The CUG's areas of concern were extended to include discrimination based on gender, age, sexual orientation, race, ethnic origin, disability, religion, and language. They provide a tool against discrimination in the workplace, covering the areas of economic treatment, career advancement, security, and access to work. The European Institute for Gender Equality (EIGE) website page covering gender equality in Italy states that "By Law, Public Administrations – including all Public research organisations including Universities – must have a gender equality plan (also called Positive Actions Plan and referred to hereafter as PAP). Therefore, all 96 Italian universities have a PAP." This overlap between Italian PAPs and GEPs requires adjustments to PAPs, as the requirements for Horizon Europe describe an internal structure for GEP that differs from a PAP in some respects.

Implementing positive actions and gender mainstreaming in academia creates a fragmented patchwork in adopting strategies and policies. Even when national policies guarantee uniformity in adopting GEPs, substantial changes to research and innovation teams and management structures do not always occur. Other initiatives may be needed to bridge the gap between structural change at institutional level and the contributions of individuals working and studying in higher education, starting with dedicated actions at project level, for

example. In the following pages, we highlight the first steps in a strategy promoting micro-actions at project level that mirrors the macro-actions of GEPs.

3. The case study

3.1 The context

Since 2019, the European Commission has financed "European universities", transnational alliances promoting European values, and working to transform the quality and competitiveness of European higher education towards a common European Education Area (EEA). Today, 41 European University Alliances (EUAs) involving 279 institutions are becoming the universities of the future, creating internationally competitive degrees that combine study programmes in different European countries[4].

Ulysseus is a European University coordinated by the University of Seville, Spain[5]. Five Partners complete the Consortium: University of Côte D'Azur (France), University of Genoa (Italy), Technical University of Košice (Slovakia), MCI_The Entrepreneurial School (Austria), Haaga-Helia University of Applied Sciences (Finland). Ulysseus embraces a total of over 160,000 students and more than 28,000 staff across six countries from all the European areas. The project initiatives include six research and development challenges prioritised by the regions and cities represented in the partnership: Ageing and Wellbeing; Energy; Transport, Mobility and Smart Cities; Tourism, Arts and Heritage; Digitalisation, Artificial Intelligence and Food; Biotechnology and the Circular Economy. For each challenge, the partners create an Innovation Hub, considered the centre of gravity for the partners involved. The Hubs are co-created and aim at transdisciplinary and challenge-driven education, intertwined with research and knowledge transfer and the promotion of citizen involvement and European values.

A work package, entitled Social Responsibility and Citizen Engagement (WP5), dedicates specific activities to different target groups: people with special needs, disadvantaged groups, and older people. Two other tasks aim to engage citizens in Ulysseus activities and promote gender equality in the project's activities. In the latter task, the task force participants produced a Gender Equality Agenda designed to fertilise the project activities. The Gender Equality Agenda also forms the basis for the project's general Action Plan. While developing the Gender Equality Agenda, the idea to shape future initiatives as a Project_Gender Action Plan emerged: it will impact Ulysseus activities in their entirety, the Innovation Hubs and ultimately, thanks to its resemblance to a Gender Equality Plan, the Partners' universities.

The P_GAP was inspired by an EU initiative in the 6th FP. In the following paragraphs we provide information on the initiative and go on to describe the methodology we followed.

3.2 The EU initiative in FP6

The gender dimension of the EU Sixth Framework Programme for Research and Technological Development (FP6) became a priority at each stage of the project cycle. As mentioned above, FP6 included three closely gender-related objectives for research: increasing the number of female researchers taking part in projects, ensuring women scientists are involved in the assessment, consultation and implementation processes, and redesigning research to ensure it meets the requirements of both women and men. To achieve these objectives, the European Commission asked the scientific community to include a gender action plan (GAP) in research proposals for Integrated Projects and Networks of Excellence, funding instruments that were bigger both in scale and budget than any of their predecessors[6].

GAPs were supposed to contain three key elements: 1) analysis of the situation regarding female participation within the project and gender aspects of the research field, 2) proposed new actions based on the analysis, 3) and concrete information as to how the gender dimension would be integrated into the research content during the project. GAPs were not included in the following Framework Programme (FP7): Mergaert and Lombardo

[4] Factsheets for each EUA are published on: https://ec.europa.eu/education/european-universities-factsheets_en.
[5] www.ulysseus.eu
[6] Examples of the GAPs are available online: https://www.giz.de/en/downloads/Gender-action-plan_Eng.pdf; http://www.esonet-noe.org/content/download/20923/302503/file/DoW-1july2009.pdf; http://www.it.uu.se/research/group/core/publications/WISENET/UU_WISENET_komplett.pdf

(2014) examined the Commission's documents and reports to understand the reasons for this choice but did not find an adequate response.

4. Methodology

When the obligation of providing a GEP to qualify for funding under Horizon Europe was announced, the Taskforce from the WP5 Task aimed at creating a Project Gender Equality Agenda debated whether and how to integrate the request into its working plan. Not all Ulysseus Universities had a GEP at this stage, and Taskforce participants felt that reciprocal support was needed to reach this goal. The work to be done to promote gender equality, diversity, and inclusion in Ulysseus was therefore reshaped so that it could be integrated, where possible, into future GEPs. Since the activities were to be implemented at project rather than organisational level, as in the case of FP6, the GAP model was considered more appropriate to the scale of the work within Ulysseus. The focus had to be on actions that were realistic at project level.

The Gender Equality Agenda is transversal to the entire project and may therefore influence all its activities. Therefore, the fertilisation of all project areas begins not with the central structure of the project, coordination, and management, but with a work package on social inclusion, based on a bottom up rather than a top-down approach. Actions may be implemented by the Consortium (all partners), as in the case of training actions, or by individual partners, for example micro-actions regarding language.

The work took place over ten months, in four stages:

State of play: gathering and sharing information on the situation in each university as regards Gender equality, diversity, and inclusion.

GEPs: gathering and sharing information on GEPs or similar initiatives where they were not yet implemented

Identifying good practices: based on their knowledge and what they had gathered and observed in previous stages, the partners identified good practices that could be applied to their work. Good practices were pinpointed within individual universities, including the partner university, and at regional, national, or international level.

P_GAP: using tables similar to those for GEPs, the partners drew up a list of the micro-actions they intended to complete within a year. The results from the first year will be used to establish a second set of activities that will be implemented in the final stage of the project, laying the foundation for actions that last beyond the project's funded pathway.

For the sake of brevity, we will concentrate on the last phase, the P_GAP development.

While the first stage was being carried out, in February 2021, the news that GEPs were to become an eligibility criterion for both public and private higher education establishments led to our decision to link the work to the Partners' GEPs. Therefore, to help widen micro-actions to the partner organisations' GEPs (current or under construction), micro-action was described following the general recommendations applied when writing a GEP. The template adopted was inspired by the SAGE project funded in H2020 (Drew, 2020), which provided a detailed scheme for creating a GEP; it was simplified to facilitate the Partners' work.

The taskforce participants chose the micro-actions from an initial list of possible actions provided by the Task leader, adding others that were deemed relevant at local level or significant at consortium level.

The activities aimed at EDI themes had to meet the European Commission's requirements for all projects funded under the European Union framework programs for research and innovation.

In particular, we followed the three major strategic approaches to gender equality in science research, policy, and practice adopted by governments and universities over the past several decades, as described and recommended by Prof. Londa Schiebinger (https://genderedinnovations.stanford.edu/what-is-gendered-innovations.html), adapting them to the European University Alliance:

Table 1: EU recommendations and micro-actions in the EUA

EU recommendations	Micro-actions in the EUA
Fix the Numbers: focuses on increasing women's and other under-represented groups' participation.	To reach a gender balance (40/60) in Ulysseus and to increase women's and other under-represented groups' participation to workgroups, project commissions, committees, events, etc. in case of an unjustified imbalance.
Fix the Institutions: promotes inclusive equality in careers through structural change in research organizations.	Structural change to institutional aspects of Ulysseus to promote the achievement of inclusive equality: how the project "speaks" to the outside, how it establishes new connections and new collaborations with other organisations respecting inclusive approaches.
Fix the Knowledge (or "gendered innovations"): stimulates excellence in science and technology by integrating sex, gender and intersectional analysis into research.	To introduce attention to EDI in performing research and organising teaching activities. Micro-actions may monitor that the new research projects and new teaching paths that will arise from Ulysseus include appropriate references to the themes of equality, diversity and inclusion. Another possibility is to guide Ulysseus partners in identifying new partners already active in implementing inclusivity or interested in including activities to promote EDI in new proposals

All micro actions, and their measures of success, will be specific, measurable, achievable, realistic and time-bound (SMART) (Doran, 1981) following the EIGE recommendations to facilitate the successful implementation of objectives, targets and measures for Gender Equality Plans. The four mandatory process-related requirements (building blocks) and the five recommended thematic areas were considered, when possible, in choosing the micro-actions.

The P_GAP mirrors a GEP in the following aspects: it is a formal document agreed upon and shared by the partners, actively communicated within the project; it demonstrates a commitment to gender equality and diversity in project activities and consequent outcomes and outputs; it sets clear goals and detailed actions and measures to achieve them. It addresses where possible the five thematic areas, including actions at project level.

5. Results

When constructing the P_GEP, we considered the literature on the critical problems linked to implementing positive actions and gender mainstreaming, as adopted by national programmes, and to creating GEPs through EU funding within FP7 and Horizon2020. The knowledge pathway involved analysing the EU's progress in promoting gender equality in academia, and an understanding of how patchy the results are to date, with some areas often left uncovered (first of all engendering knowledge). In this section we provide a brief description of how we took account of the critical problems, including some examples of micro-actions.

The differences between gender mainstreaming policies and positive action policies (Stratigaki 2005) and the ambivalence surrounding the European Commission's adoption of gender mainstreaming (Lombardo & Forest, 2014; Lombardo & Meier, 2006; Meier, 2018) have been extensively debated. The two strategies are still needed and linked to the organisations' social and cultural aspects. Gender mainstreaming requires a preparatory phase that may also consist of positive actions; however, the latter alone are not strong enough to restructure the dominant thought. The latter may occur particularly where there is no intention to open decision-making and programmatic spaces to new visions, to the inclusion of "actors" seldom or never included in decision processes in the past. The co-presence of these two strategies might reinforce the image of a GEP as a tool aimed solely or primarily at women; positive actions are often more easily understood by non-experts in gender issues, they are more visible and simpler to implement than gender mainstreaming, and often trigger less resistance to change. Therefore, in the P_GEP, we focused on positive actions and specified which aspect each micro-action is designed to fix: numbers (balance or representation), the project considered as an organisation (its visibility, its narrative), and knowledge (research, education).

The EU's framework programmes have provided significant support for gender issues, funding gender equality initiatives within the research field for many years, from individual projects to wider actions involving the entire scientific community, RPOs and RFOs. A key feature of the initiatives is the importance not only of redressing

the numbers of men and women taking part in research and development, but also of including different perspectives within scientific contexts. The latter has yet to find exhaustive responses: particularly in high-tech sectors and STEM disciplines, it requires educators to apply gender perspectives to educational pathways – still mostly overlooked in the scientific world – and asks researchers to review and expand their knowledge and competences to include a gender perspective in each step of the research process. In addition, Horizon Europe proposals must address the gender dimension in the entire research and innovation process at project level. The P_GEP therefore includes information actions and information on the gender dimension, on engendering knowledge and gendered innovations, as well as support actions for future projects inspired by the partners' work within Ulysseus.

Projects funded by the Science in Society (SIS) and the Science with and for Society (SwafS) programmes did produce useful material on plans to promote gender equality at institutional level: the published reports and articles are now available to everyone thanks to the Open Access policy which applies to EU-funded projects. Therefore we have access to valuable material covering various scientific disciplines, a useful way of introducing a "sex/gender" perspective (Degraef, 2005; European Commission. Directorate-General for Research and Innovation, 2013, 2020; Tannenbaum et al., 2016, 2019) in research or creating GEPs following the guidelines issued by the EIGE[7].This leads us to the notion of sustainability, another requirement for GEPs. The sustainability of the P_GAP does not go beyond the duration of the project, as it is strictly related to the project's activities, outcomes and outputs. We envisage a different form of sustainability, that the actions implemented in the project will become part of the normal routine for other projects and the Universities' GEPs. In this sense, the P_GAP might contribute to the sustainability of gender equality actions as described and recommended by EIGE, facilitating the embedding of practices "in the normal routines, policies and procedures of the organization" [8].

Our analysis of the institutional instruments for promoting gender equality in academia, such as the Athena Swan Charter in UK and Ireland and the Italian PAPs, defined by the European Institute for Gender Equality (EIGE) as equivalent instruments to GEPs, revealed a number of common critical problems: primarily, the tendency to overload members of the organisations - particularly women - with work, designing, planning and implementation responsibilities, (Caffrey et al., 2016; Bencivenga, 2019) and to concentrate on the work-life balance (Galizzi and Siboni, 2016). While this is a key prerequisite, it alone will not bring about the structural change needed to achieve gender mainstreaming. The P_GAP will be implemented by people involved in a project that is not centred on gender and diversity. The partner universities are represented in the project by researchers, teaching and administrative staff and students of different genders, covering widely varying issues, with the focus on aspects of technology. The workload for the P_GAP can easily be shared between male and female participants. Attention to work-life balance in the project activities is included but does not dominate. Therefore, the P_GAP narrows the traditional gap between those who create and implement GEPs, and those who benefit from the Plan, providing access to funding that would otherwise be precluded, but are not involved in its construction. The gap leads to a lack of reflection and analysis of the current problems and prevents acquisition of the knowledge needed to reorganise the structure of the organisations. In the P_GAP, the implementation of micro-actions will involve the same people who work on the project tasks, helping them understand the changes enacted by the micro-actions.

To give a more concrete idea of the P_GAP currently in place, we will conclude this section by highlighting some of its features.

The micro-actions have a short duration; in some cases, they are individual actions (for example, revising a text or a conference paper to include references to gender equality and diversity), in others they are repeated several times depending on the progress of the project to which the P_GAP is linked (for example, providing emerging HUBs with indications and consultancy on gender equality or engendering knowledge related to each HUB).

A basic principle adopted in the partnership is to avoid creating new material. The pathway towards gender equality undertaken by universities thanks to the EU has produced numerous reports, toolkits, videos, strategies, policies and recommendations, all available online. The micro-actions, whenever possible, start from existing material, thus contributing to the initiative's sustainability. Another positive consequence is the effort to build

[7] https://eige.europa.eu
[8] ROADMAP TO GENDER EQUALITY PLANS in research and higher education institutions
https://eige.europa.eu/sites/default/files/gear_roadmap_01_shortguide.pdf

a network of researchers and organisations beyond the Consortium and to involve them in a mutual exchange of experiences.

The P_GAP helps restructure parts of the project to achieve gender balance within the leadership and decision-making processes, and to achieve gender equality in involving the Partners' current and future staff, and in their career pathways, for example by promoting coordinating roles for Tasks or Workpackages within the project. The P_GAP also includes micro-actions designed to integrate the gender dimension into research and educational content inspired by the project: support in identifying and choosing partners outside of the consortium for future projects, or support in adding the gender dimension to projects applications to UE calls in the future. Regarding the educational content, this covers support in including references to research that addresses sex/gender and, where possible, intersectional perspectives for the project disciplines

6. Conclusions

In this exploratory paper, we describe an attempt to help academic staff and students create and adopt gender equality plans (GEPs). The European Union's requirement that GEPs be adopted as early as 2022 has accelerated an undoubtedly positive and desirable process, although doubts and forms of resistance remain. Referring to the EU's requirement that a gender action plan (GAP) be included in research proposals in FP6, we created a project-gender action plan (P-GAP) in a European University.

The paper describes the path leading to the P_GAP, and the reflections leading to this choice. The P_GAP will be implemented in 2022; it is too early to know whether the micro-actions that mirror typical GEP macro-actions will have the desired effect. Obstacles hindering the GEP's implementation, well documented in the literature, might also occur at project level: resistance to change, excessive workload on female staff, difficulties interacting with partners with saturated working schedules, and project work packages that are too defined to allow changes.

Collecting data, monitoring activities, and evaluating the results will show whether the adopted strategy has been effective and can be replicated in other projects to familiarise more teaching, research and administrative staff and students with gender equality and diversity in Academia. This will also favour the sustainability of GEPs after Horizon Europe, should they no longer be mandatory for funding in the next EU research and innovation programme.

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Parental and Grandparental Labour in Russia: Gender Perspective

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Abstract: Similar to most of the advanced economies, Russia has seen a rapid change of social values, proactive engagement of women in the labour activity, the transition from the authoritarian to egalitarian model of family relationships. In a number of Russian regions, men and women increasingly believe that they have to take an equal part in housekeeping and childcare. We study parental responsibilities associated with raising, developing children and taking care of them as a particular type of labour—parental labour. Parents may delegate these functions to other actors—for example, to family members; therefore, we can look into not only parental, but also grandparental labour. The paper aims to analyse gender aspects of the parental and grandparental labour in Russia. We used a series of qualitative and quantitative research methods. To examine gender aspects of parental labour, we conducted in-depth interviews with 7 mothers employed (residents of the Sverdlovsk Region). To examine the nature of grandparental labour in 2021, we surveyed 500 parents – the residents of the Sverdlovsk Region; filter questions were to control that the respondents have both under-age children and their currently living parents and/or those of the spouse (i.e., grandparents). For the analysis, we selected questions aimed to study the content, forms, and the scope of grandparental labour. We processed and analysed data using IBM SPSS Statistics 23.0. For the analysis, we also used descriptive statistics, frequency analysis, and non-parametric statistics (Mann–Whitney U-test). According to the in-depth interviews, women are overstressed about their burden of parental responsibilities. With that, they still stereotypically believe that raising children is predominantly a woman's job. Parents argued that grandparental labour is also highly gendered; most often, it is exercised by grandmothers. In particular, maternal grandparents fulfil parental labour functions more frequently than paternal ones. Evaluations of help differ most prominently in those cases when parents estimated paternal grandparents' help. Our results may be of use when designing new mechanisms for the family and demographic policies in Russia, which aim to ensure gender equality and the proactive involvement of men in parental and grandparental labour.

Keywords: parental labour, grandparental labour, gender aspects, demographic policy

1. Introduction

A traditional understanding of family with a man being viewed as a provider and a woman as a home keeper is gradually disappearing (Aarntzen et al., 2021). Instead, it is replaced by an egalitarian model, which strives for reaching equality and closing a gender gap between spouses' roles. In the recent decade, women have more often and proactively engaged in labour and education, whereas men partly assume family and housekeeping responsibilities, including raising children (Cipollone et al., 2014; Janus, 2012; Tamm, 2019; Beham et al., 2019). Still, as many researchers report, gender-based roles remain in most of modern families. Traditionally, housekeeping and parental responsibilities are mostly shouldered by women rather than men (Craig and Mullan, 2010; Winefield et al., 2011; Lomazzi et al., 2019). The Organisation for Economic Co-operation and Development (OECD) claims that, in 2021, women from the OECD countries have spent on average 263.4 minutes daily on non-paid labour (housekeeping and raising children), whereas men devoted to it only half the figure (OECD, 2021). According to the International Labour Organisation, in Russia, this gap is even larger with women spending three times more on non-paid household work compared to their partners. Researchers claim that disparities in the distribution of domestic chores between spouses not only result in the intense physical and emotional pressure faced by many women, but also become one of the reasons behind a low birth rate, as it may negatively influence spouses' decision to have the first and subsequent child (Mills et al., 2008; Arpino and Luppi, 2020; McCanlies et al., 2019).

Researchers from different countries argue that the gender gap also occurs between grandparents. For example, according to the 2004 Survey of Health, Ageing, and Retirement in Europe based on data from 10 European countries, Hank and Buber concluded that grandmothers were more engaged in taking care of their grandchildren compared to grandfathers; in 2003, 58% of grandmothers and 49% of grandfathers provided some kind of care for a grandchild aged 15 or younger. The most prominent differences (more than 10 percentage points) in the shares of grandmothers and grandfathers involved in taking care of their grandchildren were observed in Italy, Spain, Switzerland, Sweden, Denmark, and France (Hank and Buber, 2009). Data from other sources yielded analogous results; for instance, in the Netherlands, the survey of childbearing-age citizens found the following gender-based aspects of grandparenting: maternal grandparents prevail over paternal ones;

grandmothers are more proactive in providing care for grandchildren than grandfathers (Thomese and Liefbroer, 2013). In China, the 1991-2004 longitudinal dataset (China Health and Nutrition Survey) demonstrated that even those grandmothers and grandfathers who lived with their grandchildren spent different amount of time to help them – on average, 21.1 hours per week by grandmothers and only 7 weekly hours by grandfathers (Chen et al., 2011).

We consider parental responsibilities in taking care of children, raising and developing them as a specific type of labour — parental labour. Therefore, shifting a part of parental functions to grandparents inevitably results in the activation of grandparental labour. Parental and grandparental types of labour differ not only in their actors; they can also vary by a set of responsibilities, attitudes to the type of labour (by actors themselves, children this type of labour is aimed at, and society in general), regularity, intensity, factors to determine its necessity, and the like. What they share, though, is the labour-oriented nature of childcare activities, which involves time and energy costs; it is goal-oriented and in-demand in society.

The paper aims to analyse gender aspects of parental and grandparental labour in Russia. It is the first study in Russia which explores gender aspects of two types of labour—parental and grandparental—simultaneously.

2. Data and methods

To analyse gender aspects of parental and grandparental labour, we used a set of qualitative and quantitative research methods and designed a methodology consisting of two types of empirical research (Figure 1).

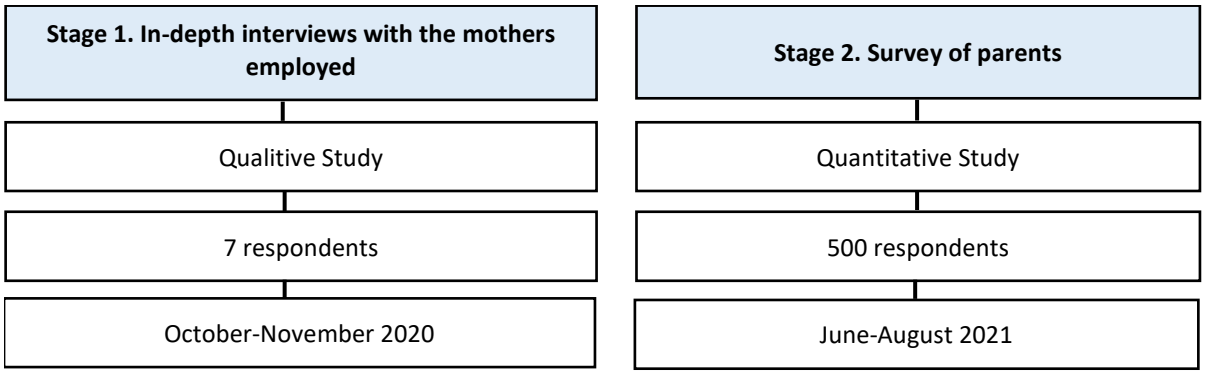

Figure 1: Logical structure of studying gender aspects of parental and grandparental labour in Russia

To clarify, we would describe each stage in more detail.

Stage 1. In-depth semi-formal interviews with Sverdlovsk Region's mothers employed (aged 18-45, N=7). We surveyed women with two children (N = 4) and with one child (N = 3) aged 0 to 10; we argue that parental labour is the most intense at this very stage of children's development. The interview guide included 4 major points for discussion:

- professional and parental responsibilities of the respondent;
- difficulties in balancing professional and parental labour;
- additional measures to support employees with children on the labour market;
- how reproductive intentions of the respondents are influenced by the demographic policy.

Stage 2. To examine the nature of grandparental labour in 2021, we surveyed 500 parents – the residents of the Sverdlovsk Region; filter questions controlled that respondents had both under-age children and their currently living parents and/or those of the spouse (i.e., grandparents). We applied river sample and posted the questionnaire on various websites (regional mass media and communities on social media) to ensure the maximum coverage of the target population. To distribute the questionnaire, we involved public organisations that deal with families, parents, and children. In total, the survey collected data from 563 respondents. Then, 500 responses were selected randomly, which increased a random selection of the population units collected with river sample. For the analysis, we selected questions aimed to study the content, forms, and scope of grandparental labour. We used the following variables:

- regularity of providing help to children by different actors of grandparental labour (maternal and paternal grandparents). It was estimated with a 7-point scale, where 1 – "he/she does not provide any help", 7 – "he/she helps a lot";
- responsibilities taken by grandparents (a list of 18 types of help grouped in the following functions of grandparental labour: communicative, labour-related, accompanying (taking children to various establishments), cultural, housekeeping, educational, medical preventive).

Using respondents' answers on how much help they receive from different actors of grandparental labour, we calculated the average amount of help provided by each group. After that, we identified 2 groups of the parents surveyed: 1) those who receive more help from grandmothers; 2) those who receive more help from grandfathers. Then, we determined gender-based functions of grandparental labour.

For the analysis, we used descriptive statistics and frequency analysis.

3. Results

We obtained the following qualitative results:

1. Childcare responsibilities are mostly shouldered by women. Interestingly, a gap in parental functions between the partners does not depend on their marital status (married or divorced). In both cases, mothers are more engaged in raising children compared to fathers (Table 1). Some married women attribute it to a demanding job of their spouses.

Table 1: Distribution of parental responsibilities in family

Married women	Single mothers
"I certainly take on more childcare responsibilities" (Ekaterina, 29, a five-year-old child) "Well, I do more, I guess… 70/30. But the only reason is that he always gets work calls, and a lack of time, I think. Technically, it's 50/50" (Marina, 35, nine- and four-year-old children) "It feels like my husband has an assumption that it's a woman's job. I think he does less. Yeah, he buys groceries, something else, but all the stuff like taking and picking up children, arranging things—it's all on me" (Olga, 35, seven- and ten-year-old children) "It's me, obviously. My husband is working; he leaves at 7:30 and comes back at 8:30 or 9, 5 days a week. So, naturally, everything's on me" (Tatyana, 33, six- and two-year-old children).	"He kind of takes part and shows up once a week or a fortnight to, say, have a walk with the child. Actually, that's it. All the rest is on me" (Vera, 36, a three-year-old child). "It's such a challenge to be left alone and raise my child by myself. Now things are different because the father started to support us financially a little bit, but when he hadn't, it had been very difficult" (Marina, 34, a ten-year-old child). "I don't have a husband; we got divorced. So, I actually raise them alone. I don't hear from him" (Julia, 35, nine- and six-year-old children).

2. The women regrettably claimed that their spouses barely contribute to the childcare process. However, divorced mothers take it more seriously (Table 2). Other women – despite the great load – accept the gap in the distribution of parental responsibilities as normal.

Table 2: Women's opinions on men's engagement in parental labour

Married women	Single mothers
"It's so hard for us, mothers. But now fathers also take on these responsibilities" (Ekaterina, 29, a five-year-old child). "We're not in the US. My husband has assumptions and stereotypes; that's just who he is. In America, everything is possible. Here, in Russia, it's all different" (Olga, 35, seven- and ten-year-old children). "Fathers definitely should help take care of children. But the government doesn't give them a parental leave. So, that's the way it is. Anyways, mothers spend more time with children. Fathers are breadwinners; they can get more money" (Tatyana, 33, six- and two-year-old children).	"He said the problem was that he was not interested in children below the age of 3. Until that age, he said, only mothers should take care of them. That's totally not okay with me…" (Vera, 36, a three-year-old child). "I think it's unfair that a woman handles everything herself while a man is having fun somewhere. There should be some kind of propaganda, I guess" (Marina, 34, a ten-year-old child).

3. According to the parents surveyed, grandparental labour is more often exercised by grandmothers. Figure 2 presents parents' estimations of how much help they receive from different actors of grandparental labour. Mostly, help comes from maternal grandmothers followed by maternal grandfathers, paternal grandmothers, and paternal grandfathers (in the decreasing order). Therefore, maternal grandparents assume grandparental labour functions more often compared to paternal ones, whereas grandmothers, the respondents claim, provide more help than grandfathers.

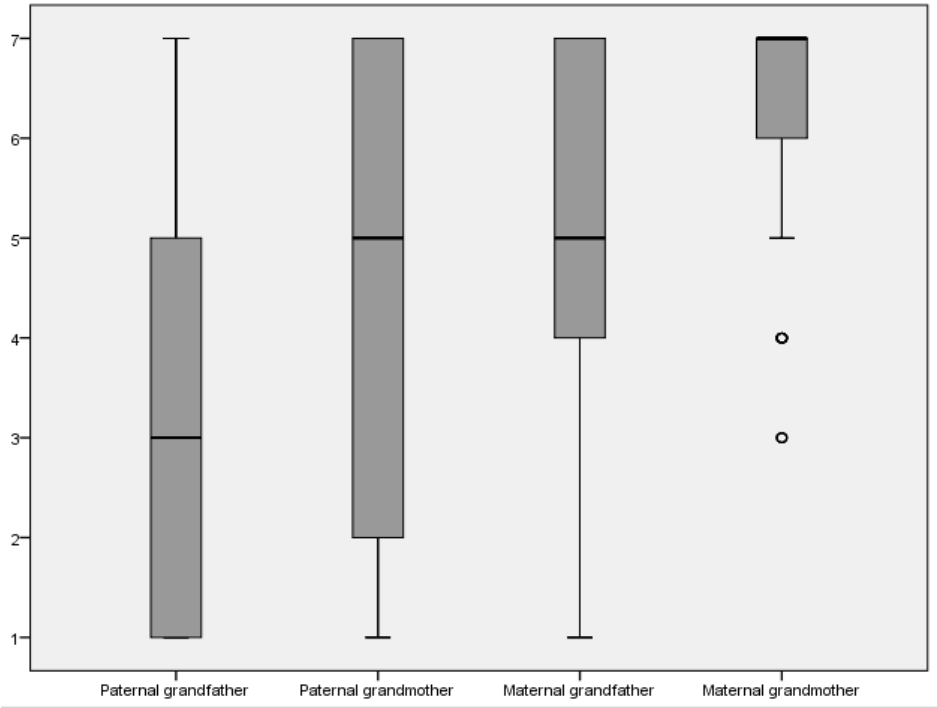

Figure 2: Estimations of help by different actors of grandparental labour

4. Figure 3 demonstrates coefficients of variation in parents' estimations of help with grandchildren provided by different grandparents. The most prominent differences are revealed between estimations of help by paternal grandfathers; as for paternal grandmothers, evaluations of their help also vary greatly. In the case of maternal grandmothers, variations between estimations of their contributions are the lowest. When parents evaluate help by the father's parents, their opinions vary more substantially.

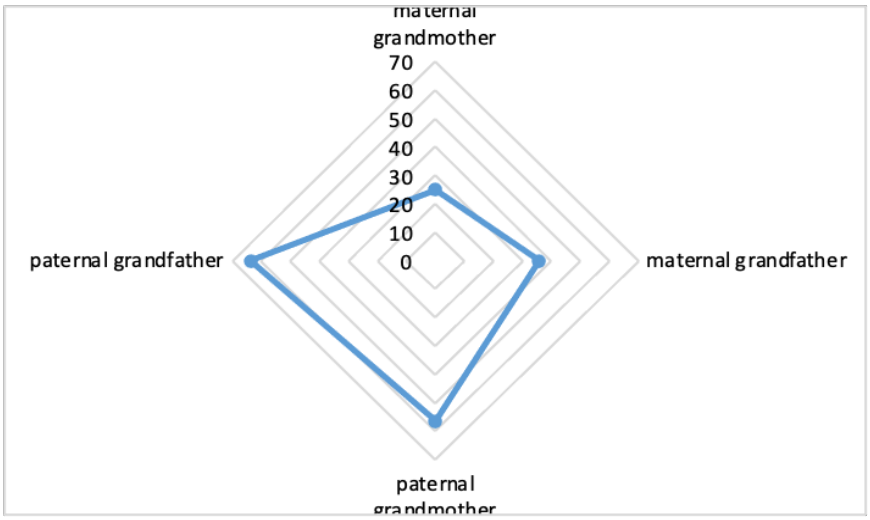

Figure 3: Coefficients of variation in estimations of grandparental labour exercised by different actors

5. Table 3 presents groups of the parents surveyed based on the gender aspect of grandparental help. It demonstrates that the number of parents who receive help predominately from grandmothers rather than

grandfathers accounts for 35.2%, whereas the inverse case (when grandfathers help more) is much less common (19.7%).

Table 3: Groups of parents surveyed based on gender aspect of grandparental help

Groups of parents surveyed based on gender aspect of grandparental help	Regularity, %
Grandmothers and grandfathers help equally	45.1
Grandmothers help more often	35.2
Grandfathers help more often	19.7
Total	100

6. Table 4 illustrates types of grandparents' help in the gender-based perspective. As compared to grandfathers, grandmothers much more often take grandchildren to kindergartens, schools, extracurricular and sport classes, fulfil the medical function of parental labour, cook for grandchildren, and attend cultural events with them. In turn, grandfathers more often involve grandchildren into labour activities than grandmothers.

Table 4: Regularity of grandparental labour activities in gender perspective

Activities	All parents surveyed, %	Groups of parents receiving more help from		
		grandmothers	grandfathers	equally
Communicating on various topics	57.4	56.1	55.0	57.7
Involving into labour activities	40.9	42.1	46.7	38.7
Accompanying to educational establishments	29.4	38.3	26.7	28.5
Arranging leisure time	23.6	25.2	26.7	24.1
Supporting financially	20.1	21.5	21.7	21.2
Cooking	18.0	15.9	11.7	13.1
Attending cultural establishments	16.2	16.8	11.7	18.2
Helping with school tasks	16.0	17.8	16.7	16.1
Giving medical treatment	10.4	19.6	3.3	10.2
Doing laundry	3.0	4.7	3.3	1.5

4. Discussion

Our results show a gender gap in distributing childcare responsibilities within the family; it is relevant both for parents and grandparents, who are often delegated a part of these responsibilities.

The qualitative results prove that mothers are more proactively engaged in raising children than fathers. Some women argue that the reason behind it is a hard work their spouses have to do to provide for the family, which may testify to the fact that traditional ideas still prevail—men are responsible for financial well-being of the family, women for running a household and taking care of children. We concluded that, in Russia, childcare is a prerogative of mothers, which implicitly supports the fact that married women—even despite a heavy load—are ready to bear the most part of parental functions only because they are expected to do so by society.

The stronger involvement of grandmothers into grandparental labour may stem not only from gender-based stereotypes existing in Russia, but also from objective reasons—women's life expectancy in Russia is higher than that of men. Figure 4 demonstrates these indicators in the dynamic with the dashed line showing the number of years by which women's life expectancy increases men's one. For the previous 30 years, the difference in life expectancy has not fallen below 10 years, whereas from 2000 to 2005 it was more than 13 years. This disparity inevitably affects the scope of grandparental labour exercised by grandfathers compared to that of grandmothers.

Figure 4: Dynamic of men's and women's life expectancy in Russia

5. Conclusions

Our analysis indicates that the gender inequality in Russia occurs both in parental and grandparental labour. More often, these two types of labour are exercised by women. Traditionally, they are more proactive in raising children than fathers notwithstanding the considerable stress induced by balancing family and career—two vitally important areas. The disparity in distributing household chores may result from gender-related stereotypes, which are strong in the Russian society. We established gender-coloured labour activities in grandparental labour, which include accompanying, medical, housekeeping, and cultural functions. Our results may be of use when designing new mechanisms for the family and demographic policies in Russia, which aim to ensure gender equality and the proactive involvement of men in the parental and grandparental labour. We see two directions for the further development of the study: 1) carrying out in-depth interviews with fathers to explore their vision of the problem; 2) carrying out in-depth interviews and determining focus groups with grandparents to find out subjective reasons behind the gender gap.

Acknowledgements

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Representations of Fatherhood and Pre-Colonial Masculine Otherness in Flora Nwapa's *Idu* (1970)

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Abstract: Drawing on Nwapa's representations of pre-colonial definitions of West African manhood, I will examine the interrelated ways of the male characters' perception and yet distinctive ways of responding to pre-colonial hegemonic masculinity represented in *Idu*. Moreover, this chapter explores the narrative irony used by Nwapa to redefine notions of producing children, contest polygamy, and interrogate indigenous pre-colonial constructions of manhood in the novel. Her interrogation of indigenous masculinity constructions encourages us to recognize that representations of contemporary masculinities are constantly linked to pre-colonial patriarchal definitions of manhood, as will be shown throughout the following chapters. Using a qualitative research approach, my research paper argues that Nwapa, in *Idu*, exposes that the Nigerian pre-colonial association of hegemonic masculinity with 'virility' proves to be harmful, too powerful to be resisted, dehumanizing, and tragic. I contend that although a woman's childlessness is presented to be equally painful, the novel sheds more light on the complexity of male infertility, and uses the ironic narrative as a mechanism to contest pre-colonial indigenous constructions of manhood in the Igbo society, redefining the Igbos' attachment to producing children.

Keywords: masculinities, crisis, oppressed, patriarchy

1. Introduction

Nwapa is an iconoclastic female novelist, whose work strives to subvert Igbo culture's valorization of procreation, as a source of fulfilment for the Igbo woman, such as in *Efuru* (1966), *One is Enough* (1981), and *Women Are Different* (1986). Notwithstanding, in her second novel *Idu* (1970), Nwapa turns her attention not only to in/fertile women, but also to sterile men, by giving considerable attention to issues of masculinity. Ultimately, Nwapa makes us recognize that an exploration of the issue of male childlessness is necessary if we are to fully understand the gender issues undergirding her second novel, *Idu.*

Flora Nwapa's novel, *Idu*, has frequently been submitted to feminist analyses. Much of the criticism written on Nwapa's work has been justifiably influenced by feminist perspectives because of the woman-centered nature of her fiction. It would be quite difficult to argue that the novel is not feminist. Indeed, Nwapa herself has acknowledged that the main reason of her writing is to write women's stories. The themes of gender, the lives, and roles of women in society, the effects of patriarchy on women, and the issues of reproduction and fecundity as a cultural imperative are prominent throughout the novel, *Idu*. In their studies of masculinities in Africa, Robert Morrell and Lahoucine Ouzegane (2005) argue that "While a great deal of attention is paid to womanhood and motherhood, there is no equivalent discussion of manhood and fatherhood" (6). Likewise, analysis of male characters' experiences, particularly, the issue of fatherhood, in Nwapa's Idu, remains yet to be explored.

Drawing on Nwapa's representations of pre-colonial definitions of West African manhood, I will examine the interrelated ways of the male characters' perception and yet distinctive ways of responding to pre-colonial hegemonic masculinity represented in *Idu*. Moreover, this chapter explores the narrative irony used by Nwapa to redefine notions of producing children, contest polygamy, and interrogate indigenous pre-colonial constructions of manhood in the novel.

This paper argues that Nwapa, in *Idu*, exposes that the Nigerian pre-colonial association of hegemonic masculinity with 'virility' proves to be harmful, too powerful to be resisted, dehumanizing, and tragic. I attempt to demonstrate that although a woman's childlessness is presented to be equally painful, the novel sheds more light on the complexity of male infertility, and uses the ironic narrative as a mechanism to contest pre-colonial indigenous constructions of manhood in the Igbo society, redefining the Igbos' attachment to producing children.

2. "How can a man live without children?": The Unstable Adiewere between 'Conformity' and 'Resistance'

> *"She [Idu] was not pregnant, she had not even miscarried. It had worried her husband in the first year, but he was in love with his wife and he did not want to marry another wife" (16 my emphasis).*

In the Igbo pre-colonial context addressed in *Idu*, the major expected attribute of being a 'true' man is virility. This presumption of masculinity is, however, subject to several complications, many of which are addressed or suggested in *Idu*. The most highlighted complication in the novel is childlessness. The novelist succeeds in portraying Adiewere as a complex male figure who is essentially amiable, but still childless. Nwapa, in this novel, devotes her imagination to the childless man's attempt to reach self-fulfillment correlated with an impossibility of resisting pre- colonial notions of fatherhood.

Therefore, *Idu* shows its male protagonist, Adiewere, in a state of dilemma: he attempts to resist the norms by favoring his monogamous marriage and love, but at the same time, he is worried about his position as a childless man. This is first and foremost shown through focalization and the use of stream of consciousness, as the epigraph illustrates. The first section scrutinizes the ways in which the conflicting feelings of doubt, anxiety, patience, and rejection of polygamy shape Adiewere's response towards childlessness. This ongoing oscillation of feelings underlies Adiewere's tension between 'anxiety' and 'love', the 'self' and the 'community', and 'conformity' and 'resistance'.

In *Idu*, notions of pre-colonial normative masculinity, an understanding of what constitutes society's sense of 'true' manhood, unfold from the start of the narrative. In an environment in which sexual potency for men and childbearing for women are imperatives, the author depicts Adiewere and his wife Idu as rich, but childless, thus challenging normative notions of masculinity and femininity. Through the female characters Nwasobi, Uzoechi, and Onyemuru (the old women of the community), the pre-colonial Igbo society's gender norms are presented: ""But what worries me now is that they still have no child … It's time she was. What's wrong?"" (3). Through this direct monologue, the two female characters express their concern for the couple's childlessness. Equally, they are represented as symbols of the pre-colonial norms of the Ogwuta community. Likewise, Nwapa's Idu reflects the same beliefs of the rural community in Ugwuta (or Oguta) in Igboland at the end of the 1940s. The old female characters articulate the conventional expectations of womanhood, while manhood is hinted at when questioning, ""how can a man live without children? Wasn't it a woman who bore him in her womb?"" (35). In the two rhetorical questions, the motive in the reference to both 'man' and 'woman', is not to mention the cyclical function of reproduction. Rather, it emphasizes on Onyemuru's stress on the necessity to preserve the reciprocal social meaning attached to this function: 'manhood' and 'womanhood'. As such, Nwapa asserts that virility figures powerfully in hegemonic masculinity from the start of the novel.

Consequently, the novel pushes to the extreme a sense of anxiety and fear of humiliation due to the social meaning attached to male fertility as a form of hegemonic masculinity. This is manifest through the omniscient narrator's stream of consciousness. The protagonist male character, Adiewere, is presented as anxious and uncertain not only from the start of the novel, but also from the start of his marriage. According to the narrator, Adiewere starts to worry about his manhood in his first year of marriage to his wife, Idu. His worry, as the epigraph illustrates, is explicitly detectable when the third person omniscient narrator recounts: "she [Idu] was not pregnant, she had not even miscarried. It had worried her husband in the first year" (16 my emphasis). The image of the childless man that emerges from this veiled language is that of one tormented. The worry to which the narrator refers to seems to be intensified when Idu has not even miscarried, which would prove Adiewere as a 'real' man. The narrator's reference to 'miscarriage' is significant. The term 'miscarriage' would normally designate 'loss', but in this context, it has a symbolic meaning as a proof of manhood. Therefore, the absence of both miscarriage and pregnancy culminates in Adiewere's anxiety since the first year of his marriage. Through the fear of the loss of the most defining element of manhood and masculinity, Nwapa affirms that virility is, indeed, the ultimate definer of hegemonic masculinity.

Also, in the quote, "he was in love with his wife" (16), a tension in Adiewere's feelings can be detected. To begin with, Nwapa uses focalization to reflect how Adiewere is a devoted husband despite his wife's childlessness. Moreover, focalization is effective in revealing how Adiewere's love for Idu enables him to see her from an angle different from that of the old women of the community. The old female character Nwasobi interprets the couple's childlessness by putting the blame on Idu, "'Sometimes when a woman starts with money children run away"' (3). According to this perspective, a financially successful woman is a barren woman, foregrounding how the community blames the woman for a fruitless marriage. In contrast to this viewpoint, there is no scene in the novel where Adiewere puts the blame on Idu. Instead of blaming Idu, Adiewere believes that children are in "the hands of God" (15). As it stands, the novel shows that his perception of Idu's worth as a woman is not solely mediated by her reproductive function. Moreover, a degree of openness and comprehension is perceptible in the relationship when he comforts Idu, ""I don't want you to start crying tonight because you have no child …

My mother is dead. My only brother is Ishiodu, and he does not count for much. So don't worry"" (16). In contrast to the harsh treatment Nnu Ego in The Joys of Motherhood (1979) receives from her first husband, Adiewere is portrayed as a caring husband.

Ironically, Nwapa subverts the old women's viewpoint and concern through the couple's happiness. Despite that Idu and Adiewere do not epitomize Igbo traditional expectations of producing children, the couple is happy. Nwapa aims to reveal that happiness ca be reached without children. She depicts his love for Idu as more increasing through time, '"you are as light as a feather. You get lighter and lighter every day, you are very pleasing to my eyes"' (20). Adiewere, in this simile, expresses overtly his continuous admiration of his wife. The lighter she gets, the more he loves her. The comparative description of light ('light', 'lighter', 'lighter') is immediately followed by time ('every day'). This sentence structure is deliberately repeated, foregrounding Adiewere's increasing admiration ('pleasing') of his wife. This also indicates that Adiewere overlooks Idu's infertility, and he is, instead, interested in her as a woman not a mother figure. Therefore, in his vision, she is more important than having children. The couple bond so loosely that the old women of the community comment on their happiness, wondering whether Adiewere and Idu quarrel as all couples, "You never see them quarrel. Don't they ever quarrel?"' (2). Their remark reflects the uniqueness of the couple: The childless couple is always careful not to be seen quarrelling by anyone. In this way, the novel subverts the couple's childlessness by happiness and love. Moreover, using irony, Nwapa disrupts the belief that children are everything in life when Idu is so heartbroken on learning of the death of her husband and dies the same day. Death, here, has a symbolic meaning which is used to highlight that for Adiewere and Idu, marriage is seen in terms of love, appreciation, faithfulness, rather than procreation and childbearing.

Furthermore, Adiewere's attempt to resist the community's norms is reflected using analogy and Adiewere's fixed focalisation, epitomizing his rejection of polygamy and his belief in time as a feasible resolution to their childlessness. In the novel, what can solve the problem of male infertility is the possibility of taking a second wife, as it is the norm in the community, '"if Idu can't have a child, let her allow her husband to marry another wife. That's what our people do. There are many girls around"' (33). Yet, as the narrator has mentioned, Adiewere rejects polygamy because "he was in love with his wife" (16). In another episode, the narrator recounts that:

> *Many people had advised him to marry another, but he had refused. He was not at heart a polygamist. His father had married only his mother, as he told his friends who wanted him to marry another wife. But his father's one wife was understandable. He was not, by their standards, a rich man. He could not afford a second wife although bride-price was not high in their town. If he could have afforded it, he would have married another wife (16).*

As the passage shows, Adiewere refuses polygamy despite his age-group's insistence. In addition, his vision distinguishes him not only from his peers but also from that of his father. In contrast to his father who was monogamous because of his financial inability, Adiewere is depicted as a rich businessman, but monogamous. Such a comparison foregrounds Adiewere's different perspective towards his childlessness through his patience. In this way, Nwapa's use of analogy allows us to compare Adiewere's personality traits to the those of the community's people as well as to his father. Arguably, the novel's reference to the two different generations foregrounds that polygamy is not a generational issue. Both his father and Adiewere's peers think in the same way. This, instead, can be interpreted as an emphasis on Adiewere's uniqueness, reflecting Nwapa's idealization of his qualities. Rather than simply reacting to his wife's infertility by leaving her or marrying another woman, the couple attempts to overcome their childlessness through their focus on the future. Together, they work hard and make plans to build their new house, ""If trade continues like this till the end of this season, we shall be able to start on our new house. We must start the out-house"" (15). That Adiewere rejects polygamy despite being rich can be interpreted as an implicit response to the community. In the novel, Adiewere, then, seems to respond to the Igbo values of producing children and its relationship with hegemonic masculinity through his rejection of polygamy.

However, Adiewere's resistance remains limited as the sense of doubt and fear of 'shame' and 'gaze' cannot be diminished. Rather, it persists through time as Idu shows no sign of pregnancy. The same feeling in Adiewere's first year of marriage mentioned by the narrator earlier is experienced after three years. It is addressed in another episode using a direct monologue and allusion in a scene when he informs Idu that his brother is expecting to have a fourth child. He says, ""am your husband, do you hear? I am the one to get worried, not you … please don't weep tonight, Idu, you know what I feel about this already"" (my emphasis 16). Using allusion, the novel

removes the shroud of silence that torments Adiewere's consciousness by revealing his feelings and thoughts about producing children and his manhood. Worrying about his wife's childlessness indicates also Adiewere's internalization of the community's norms of manhood. Moreover, Adiewere's emphasis on his position as the 'husband' reveals the extent to which he is concerned as a childless man. According to his perception, he is more affected than Idu. What he perceives differently corresponds to the fact that Idu has no mother-in law to blame her. Moreover, Adiewere's brother, Ishiodu does not interfere in the relationship. This indicates the role women, particularly, mothers-in-law, play in oppressing other women. Besides, Adiewere's vision manifests his awareness of the problem of emasculation that sterile men face in a patriarchal society. Ultimately, this claim justifies the persistence of Adiewere's nervousness if Idu is not pregnant. The equation of childlessness to tragedy, in the novel, is further illustrated through the suicide of the sterile male character Amarajeme.

3. The tragedy of the sterile man

In section three, I will demonstrate the effectiveness of tragedy in interrogating both of Amarajeme's tragic flaw and the community's dehumanization of sterile men. I argue that Nwapa expresses anxiety about the paralysing consequences of hegemonic masculinity that leads Amarajeme to his tragic end. Amarajeme' tragic flaw lies in his succumbing to the dominant modes of masculine construction, which culminate in his inability to acknowledge his impotency and leads to his tragic suicide. Therefore, Nwapa aims to usher new social arrangements into being, namely ones that support an acceptance of the 'sterile man by the 'self' as well as the 'community'.

In *Idu*, Amarajeme is shown to constitute himself through virility, a critical feature of masculinity in Igbo society as constructed by its social structures. Governed by the prevailing discourses of masculinity, Amarajeme appears mainly to define himself as a virile man. Unlike Adiewere, Amarajeme is portrayed as never having doubted his 'virility': "the thought that there might be something wrong with his virility was pushed aside" (130). His denial of the possibility that his virility could be in question stands as a metaphor for his longing for 'power' and 'authority'. By formulating his masculinity around his virility, Amarajeme represents a manifestation of masculinity in line with Igbo masculine norms. At this stage in the novel, Amarajeme represents a notion of masculinity complicit with the Igbo patriarchy. Nwapa questions this construction of masculinity on multiple levels.

In his construction of masculinity, Amarajeme is implicitly shown to exercise power over his wife through his refusal to recognise his sterility. In a conversation between Idu and Amarajeme's wife, we learn that Amarajeme denies his sterility and instead chooses to put the blame on his wife: "I went to Ogwagara . . . He told me my husband was not a man, and that as long as I stayed with him, I would not have a child. I came back and told my husband this and we quarrelled over it. He went to another dibia he said Ogwagara was wrong" (145). Through this conversation, Nwapa calls the reader's attention to Ojiugo's hesitancy and silence, which together allow Amarajeme to practise assertiveness through his denial of his disempowerment. As a result of Amarajeme's denial, the relationship, I would argue, is represented as abusive towards Ojiugo.

The process of Amarajeme's emasculation begins with Ojiugo's departure. His wife leaving shifts him from a position of comfort into one of vulnerability and fear, from illusion into reality: "I went in, there was none of her belongings in the room. Fear overcame me, Idu and Adiewere, fear overcame me. I shivered, I staggered and fell . . . where could I go that night? I was helpless" (108-9 [emphasis added]). The phrase 'fear overcame me' is ambiguous. It seems intended as an expression of his feelings, yet the phrase is not followed up by any more details. Rather, the expression is truncated, and fear assumes the subject position of the sentence. It is fear that is carrying out the act of 'overcoming' while Amarajeme, as the object, is disempowered. As a result, he 'shivered', 'staggered', and 'fell'. Despite trying to hide his fear, Amarajeme is betrayed by his body when Idu and Adiewere advise him to focus on his business and forget what has happened: "Amarajeme shook his head. He bit his finger and started shaking his legs again. Now tears rolling down his cheeks" (111). His shaking legs indicate that his emotional agitation exceeds the control of his mind; it is expressed in his body against his will. In other words, the turmoil in his mind is beyond his control. The weakness of his body stands as a metaphor for his actual 'disempowerment', echoing the beginning of his tragedy.

However, adopting illusion as a means of engaging with hegemonic masculinity is demonstrated to be highly problematic. This is shown when Onyemuru reappears and makes clear the failure of Amarajeme's effort to redefine his masculinity. Amarajeme's crisis peaks with Onyemuru's announcement that Ojiugo has given birth to a son. Lowering her voice, Onyemuru asks Amarajeme to take the news calmly. In contrast to Amarajeme,

Onyemuru embodies hidden meaning, as she not only knows more about Ojiugo's departure, but also has an actual link to Ojiugo as her friend. Although not yet aware of Onyemuru's news, Amarajeme intuits the nature of it: "she was bringing bad news. She always brought bad news" (109). In other words, as Onyemuru enters the spectacle of Amarajeme's crumbling masculinity, she transforms herself from news 'bringer' to an 'observer'. Consequently, via the figure of Onyemuru, the novel criticises Amarajeme's masculinity as illusory and shallow and suggests self-acceptance instead of denial.

Amarajeme's pretension of manhood is severely undermined by Nwapa. Amarajeme's 'imagined' identity, in the end, is shattered by an ineluctable shock. Compared with earlier scenes, in which he perceives himself with confidence, the scene in which Onyemuru tells him about Ojiugo's new baby leaves him confounded and pretends to be uncertain of what he is: "why did she leave me, Onyemuru? Am I not the father of the boy? Am I not?" (129). Amarajeme's self-questioning recapitulates his gradual displacement from 'illusion'. Therefore, his belief in 'virility', as the only connection between his 'self' and the structures of hegemonic masculinity in the novel, is eventually shown to be an obstruction between Amarajeme and 'reality'. He briefly questions himself, disentangling his thinking mind from the illusion: "But wait, why then did she leave me? Why then?". However, he then "recollected himself" (130). The brute consciousness is restricted to what is clear and thus to the present moment. Onyemuru makes him aware that his imagined identity cannot be sustainable. Amarajeme has spent his primal strength on journeying towards one direction; he lacks the spirit to reverse his course: "He lived alone. In spirit he was dead, but he lived on" (127). Amarajeme's new state of being reveals the limits of adopting illusion instead of reality by dramatizing his fear and despair. His pretention is severely undermined by the narrator's commentary: "Why should Amarajeme worry himself? If he was not a man he was not a man. The gods had made him so, and so he would be" (126). Nwapa thereby demonstrates the risk of an imagined identity.

Ultimately, by impregnating Ojiugo, Obokudi completes the emasculation of his friend Amarajeme. Even Amarajeme's 'power' in terms of financial status carries little weight. As Amarajeme declares, "I am stronger. I am richer than Obokudi" (110); he recognizes the inferiority with a woman who is ready to "do anything to have one, anything" (56), to prove her womanhood. For Amarajeme, becoming an object of subordination undermines the conventional delineation of masculine norms. A relation of 'power', far from being one-sided and fixed, is 'mobile', 'modifiable', and 'reversible'; the person over whom power is exercised can resist. Nwapa demonstrates that the presence of resistance in any relation of power makes the constitution of masculinity, in terms of the assertion of authority, challenging and can even place masculinity in question. An important point which Nwapa emphasises in *Idu* is that a man's identity can become dependent on a woman, and should that happen, the man's position is inverted, shifting from a position of dominance to one of subordination. While Ojiugo's subject position changes from that of the socially invalid barren woman to the legitimate status of a mother, Amarajeme is emasculated.

In addition to his tragic flaw [denial of his sterility], Amarajeme's tragic end is also depicted in part because of the discourses which define masculinity in terms of 'virility'. He is eliminated both by natural selection and by society. Through Amarajeme, Nwapa demonstrates the difficulty of resisting the discourses that permeate the subject. Amarajeme pursues these norms of masculinity until the end, at which point he is unable to exist outside the structures of the Igbo community and their pertinent discourses. His life is woven into that of the community. In this respect, Amarajeme represents Nwapa's growing preoccupation with how such discourses constrain individuals, causing them suffering and humiliation.

Feeling emasculated, this time under the direct gaze of the patriarchal community, in which all members are observing his humiliation, Amarajeme confines himself inside the house. The detachment of Amarajeme from the world is rendered both physically and socially. The house forms a tangible spatial boundary that cuts him off from the outside. Being enclosed in a woman's 'interior' space stands as a metaphor for Amarajeme's actual feminization. His detachment from the community is further emphasised in his abandoning of his business: "I have not been going. I have no strength to go" (131). The 'strength' Amarajeme refers to is not physical. The strength he refers to is psychological, and indeed that part of him is now overpowered by the power of 'shame'. His attempt to distance himself from the community inevitably circles back to the inescapable intertwinement of the self with others. His detachment from the outside environment is thus symptomatic of the alienation inflicted on sterile men.

Denied the possibility of re-integrating into the community due to the power of the 'gaze', Amarajeme finally commits suicide, an act that epitomizes the impossible resolution of 'illusion' and 'reality', 'impotency' and 'manhood'. Moreover, that Amarajeme commits suicide fourteen days after Ojiugo has given birth can also be interpreted as an implicit resistance to the community, as he "had polluted the goddess of the land" (147). It can be understood as clear evidence of his final rejection of his 'real' self: "Amarajeme hated himself. He was not pleasing to himself" (146). By contextualizing Amarajeme's response in this way, Nwapa in *Idu* stresses the importance of realistic assumptions and acceptance of the sterile man by both the self and the community.

4. Conclusion

Although fate and biological factors are significant determinants in the characters' lives, Nwapa emphasizes the role that social forces play in the shaping of male characters' subjectivity. This research paper found that the Nigerian pre-colonial association between hegemonic masculinity and male reproduction is portrayed as devastating. Adiewere and Amarajeme's inability to produce children, which is not deliberate self-marginalisation, provokes anxiety, fear, and arouses a feeling of shame. While Adiewere becomes a father and manages to escape his subordinate position in the masculine hierarchy, Amarajeme is victimised by hegemonic patterns of Igbo manhood. Therefore, these masculine expectations are shown to be necessary for being accepted within the West African societies and are, therefore, difficult to escape or renounce. Those who articulate alternatives or unwillingly stand outside of these discourses, such as Amarajeme in Nwapa's *Idu*, are indefinable, treated as unmanly, and become subject to ridicule. In being subjected to judgment in cases of disconformity, male characters strive to discipline themselves to conform with hegemonic masculinity. I contend that Nwapa's inability to envisage ways of formulating masculinity other than those offered by the prevailing norms of the Igbo society of the first half of the twentieth century suggests the impossibility of defining oneself outside the domain of Igbo structures and discourses.

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How can Gender Smart Mobility Become a More Intersectional Form of Mobility Justice

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Abstract: This paper discusses ethical issues relating to equity in smart mobility (SM) with a focus on the intersections of gender, race and class. The H2020 TInnGO (Transport and Innovation Gender Observatory) project, in which this work was undertaken, was built around the concept that Gender Smart Mobility (GSM) requires not just the development of smart mobility but the application of gender and diversity mainstreaming. The paper is set against a background of slow but steady progress towards gender equality in transport, where women in the EU now account for between 22-27% of the transport workforce, and their multimodal journeys are underserved by current transport provision. Gender and diversity mainstreaming recognises the importance of applying intersectionality in creating fair and equitable transport services which can reduce the vulnerability of certain groups to social-exclusion related transport poverty. Although championed by the EU as an objective of transport policy, Gender Mainstreaming (GM) has had limited uptake at national level and has been criticised for its oversimplification of gender, and prioritisation of gender over other factors. Incorporating intersectionality into transport policy can build on advances already made by GM However little work has been conducted in this area. Therefore, we have discussed how an intersectionality-based policy analysis framework used in health can be applied to this area. The paper argues for wider use of intersectionality (i.e., gender and diversity mainstreaming) in the SM sector and how it can be operationalised to create more equitable transport and societies. The discussion is timely given the disproportionate impact of COVID-19.

Keywords: intersectionality, mobility justice, transport poverty, smart mobility, social exclusion

1. Introduction

The advancement of women and transport, as both users and employees has progressed slowly over the past 20 years, with women still only accounting for between 22-27% of the transport workforce in the European Union. This fact is of key importance when considering mobility justice.

Transport facilitates access to the labour market, healthcare, recreational and education systems and families. An integrated, fair and accessible transport system is therefore key to social economic development and social justice. Unfortunately transport planning (and the wider Transport Business Ecosystem (TBE)) has tended to focus on the efficient movement of vehicles and the needs of the primary wage earner. As such those from already economically disadvantaged groups - including women, elderly, people from BAME (Black, Asian, Minority and Ethnic) and LGBTQI+ communities, those with disabilities and on low incomes – are not served by current transport provisions. Research conducted by the Horizon Europe 2020 TInnGO (Transport Innovation Gender Observatory) project[1] estimated current transport provision only met the needs of a third of EU citizens (Lynce, et al, 2021). For example, owing to gendered roles in society women take on most household, caring and nurturing duties, even if they are in paid employment. As such their transport needs differ from those of men – they may make shorter, and more frequent journeys, spatially and geographically limited based on the demand of their nonpaid roles (Maffi, Malgieri, and Di Bartoli, 2018). Until recently such 'non-work' related journeys (undertaken primarily by women) were not even measured or regarded by transport planning. They simply did not count in a service geared towards serving the principal wage earner and city centres.

This is compounded by the lack of gender and ethnic diversity in the transport workforce, with only 22-27% of women employed in the sector (E.C.2020), usually at lower grades, most of whom can point to, or have experienced gender discrimination. The Transport Business Ecosystem (TBE) is still dominated by white, middle-class, middle-aged men, graduating from STEM disciplines (which are themselves male dominated) who may have little knowledge, understanding or empathy with those from different groups and their travel needs. Workforce diversity is key to developing in-house champions and developing a tacit understanding of end user

[1] https://www.tinngo.eu/

needs. This becomes a power and social justice issue. Sex disaggregated data can show who uses which modes of transport and even where transport systems fail (see Lynce et al, 2021); solutions and recommendations can be made (e.g., for more lighting, better trained staff) and gender and diversity mainstreaming tools used to create gender and diversity sensitive form of mobility, and Key Performance Indicators for organisational change. These have been shown to be effective, but only if there is a will to change and consider transport as a mobility service, serving the needs of all citizens.

2. Smart city and smart mobility objectives

A smart city is one which integrates ICT (Information and Communication Technology) to collect data and connect devices to optimize the efficiency of city operations and services and connect to citizens. This is not a static process, but a series of steps through which cities may become more liveable and resilient. It has been driven by a technology push, with companies rapidly seeking new markets for their technologies, by city administrations simultaneously seeking ways to do more with less through technical solutions given austerity cuts, and to attract investment and boost local economies and a neoliberal political economy that promotes the marketisation and privatisation of city services (Kitchen et al, 2018).

The approach has been criticized for the way it frames the city as a series of systems rather than places; its technological solutionist approach; enacts technocratic forms of governance and reshapes governmentality; promotion of corporatisation and privatisation of city services; prioritisation of the values and investments of vested interests; reinforces inequalities; uses surveillance, predictive profiling, social sorting and behavioural nudging; and potentially creates security vulnerabilities across critical infrastructures (Kitchen et al, 2018). Research (eg Masucci et al 2020) already suggests that emergent smart cities reproduce actual as well as perceived urban inequities Wealthy residential neighbourhoods and spaces become "smart," but much of the city remains left behind.

Smart mobility is postulated as a means of accomplishing zero emissions, zero accidents, and zero ownership. It was originally built around the principles of flexibility, efficiency, integration, clean technology and safety. These principles have been expanded to include accessibility and social benefit, i.e. it should be affordable for everyone and help provide a better quality of life. These latter principals were not at the heart of the original proposals, which were based solely around STEM and ICT, again reflecting a technological rather than social justice orientation.

In line with Lefebvre (1996) TInnGO has argued that a smart city cannot be smart if it leaves people behind and is not founded on social justice and equity. It should be a space that is shaped according to the inhabitants needs allowing all citizens to fully enjoy urban life with all of its services and advantages and to take a roll in its planning.

Smart city technologies raise a number of ethical issues concerning privacy, datafication, dataveillance and geo-surveillance, profiling, social sorting, anticipatory governance, and nudging, that have significant consequence for how citizens are conceived and treated (e.g., as data points; subjects to be actively managed and policed; as consumers) and can work to reproduce and reinforce inequalities (Kitchin, 2016; Taylor *et al.*, 2016). All of these are widely used in SM e.g., in pilot trials of shared and e-biking, smart motorways and variable signage.

To achieve smart mobility targets, smart cities have opened themselves up to technology providers which erode privacy on a number of levels; e.g. geo-location tracking which erodes movement privacy (Kitchin, 2016; Leszczynski, 2017), remote controllable digital CCTV cameras that can track individual pedestrians, increasingly aided by facial and gait recognition software, inductive loops, traffic cameras, and automatic number plate recognition cameras monitoring road networks, sensor networks on street infrastructure such as bins and lampposts to capture and track phone identifiers. The connected city routinely collects socio demographic data from smart phones and smart cards, analysing and sharing data, and ultimately profiling and nudging behaviours of certain groups or individuals. Data determinism is not necessarily benign. Within smart city paradigms 'the citizen is framed within the smart city: as a data-point, a targeted consumer, a user, an investor, a sorted individual, and a surveilled, controlled and policed subject' (Kitchin, 2018, p11).

Smart cities serve the 'general citizen' (white, male, heterosexual, able bodied and middle class), not the 'absent' one (referring to all those diverse communities that hold differing identities, values, concerns and experiences). This clearly reflects those at senior levels in the sector and inventors. They may be guided by a small minority of

active, entrepreneurial citizen that builds civic tech for community development through hackathons and other events (Joss *et al.*, 2017; Townsend, 2013). However, the participatory and inclusive nature of these events remains questionable.

Over the last 10 years, and across 3 EU funded projects, Woodcock has reported on the lack of inclusivity, meaningful engagement and participation of citizens in transport surveys and transport planning. Disadvantaged groups are still seen 'as difficult to reach', even when as a group, they may form the largest population in a city, and when many tools and recommendations are available (e.g., through CIVITAS, ELTIS) to support true levels of participation.

Smart Mobility (SM) is posited as means of delivering key benefits such as a reduction in pollution, congestion, noise and costs, whilst at the same time increasing safety and improving transfer speed. It is marketed as part of a future in which mobility becomes a personalised, on demand service with greater consumer choice and new models of ownership. However, our analysis of visual representations shows that SM future is technology led and exclusionary (Christensen et al, 2021)

This is unsurprising given that SM's roots are STEM subjects such as computing, engineering, manufacturing and planning where gender imbalances are significant and pervasive (Harrison, 2012; Hutchinson & Bentley, 2011; Pirra et al, 2020). Worryingly, a gender gap has already been recognised in the UK and Nordic regions (Singh, 2019). Predominantly demographic studies of SM systems reveal that most users are young, male and have higher incomes (Singh, 2019). SM entrants, such bike sharing and e-scooters, are not equipped for women or those with caring commitments, who may require child seats and storage for shopping. These groups are already excluded as the developers have focussed on early adopters. Equally SM relies heavily on the use of technology, using apps to access services which requires a level of digital literacy and ownership of the required technology. Such systems may be beyond the reach certain demographics, such as those on low incomes and the elderly. So, whilst SM is advancing choice and offering more sustainable modes of transport it is not clear whether these advancements will be advantageous to all groups in society and highlights a need for a deeper understanding of users differing needs and abilities. Intersectionality as a tool for SM policy makers.

If left unchecked, this may not only limit the opportunities for women's employment and education in this new field but may also impact the type and inclusivity of future development in Smart Mobility innovations.

3. Social justice and mobility justice

Social justice relates to the fair treatment of people in particular circumstances and how people should act (Smith, 1994). In relation to smart mobility, we would argue from a feminist perspective for an end to practices of discrimination and a redistribution of power relations so that citizens have a much stronger say in how such systems work and receive fair treatment.

Gender relevant aspects of a smart city - mobility, safety and security, employment and sustainability - have been identified as fields of action for the EU. However, progress is slow, impeded by lack of willingness and ability to adopt measures that would create a fairer system.

Mobility justice (Sheller, 2018) refers to efforts to shed light on the vulnerabilities that different individuals face as they travel. It offers a new way to think across the micro (as inflected by race, gender, disability, and sexuality), meso, and macro scales of transitioning toward more just mobilities. It stands in opposition to transport justice, providing an opportunity to focus on the organization of power around systems of governing mobility and immobility at various scales. In light of the discussions in the previous sections there is a clear issue around control of the smart mobility sector (TBE) and how control of mobility and the power of certain groups to influence/choose their mobility is being played out. In the next section we propose using intersectionality as a means of addressing these challenges.

4. Intersectionality

Intersectionality, rooted in black feminism and post-colonial theory posits that lives cannot be reduced to single characteristics, and experiences cannot be understood accurately when one single factor is prioritised (Hankivsky et al., 2014). Intersectionality describes micro level processes; how individuals and groups occupy a position using interlocking structures of oppression (Dressel et al.,1997). The interconnection of these structures

creates intersectional disadvantage, defined here as the interconnected nature of categorisations including (but not limited to) gender, race, class, disability, faith and age and how different power structures interact, creating an interdependent system of discrimination and disadvantage

Mobility Justice (Sheller, 2018), Transport Justice (Martens, 2016) and Transport Poverty (Lucas et al, 2016) are all terms that serve to understand the disparities in mobility and accessibility for citizens from disadvantaged backgrounds. Intersectionality can be used to explore the relationship of the overlapping nature of identity characteristics to mobility. We are focussing attention on the intersections of gender, race and class in this paper, but discussions are of equal relevance to other intersectional characteristics such as disability, faith and sexuality.

Intersectionality can advance the understanding of gender and transport through the inclusion of additional characteristics to show that transport needs depend on age, race, income and location. It can identify the interconnected nature of multiple factors that lead to diversities within groups i.e., women - and their travel behaviours, choice of transport mode and the barriers faced in access to transport.

Transport related social exclusion is a pervasive issue that has a significant impact for certain groups in society, i.e., disabled, elderly, low-income families, and women. (Lucas, 2012). Extensive literature has investigated the differential impacts of poor accessibility experienced by disadvantaged groups (SEU, 2003; Titheridge, et al.,2014) and identified the socio demographic effect related to personal characteristics. As illustrated by Jones and Lucas (2012), the micro individual oppressions of social groups vulnerable to accessibility (such as those without cars, disabled and older groups). interact with macro level issues (inadequate transport and other local services) and those at the meso level, stemming from (inter)national trends (restructuring of global markets, laws, cultural influences). Social exclusion is a constraints-based process which causes individuals or groups to be unable to participate in the normal activities of the society in which they are resident and has important spatial manifestations (Preston and Rajé, 2007). All transport modes other than walking typically incur cost, with faster modes such as cars or trains incurring higher cost than slower more sustainable forms of transport, but access to faster modes offers access to wider opportunities within a given time. Transport systems should be designed to alleviate poverty and enable all citizens to access the places they need to. Titheridge et al (2014) recommended that in order to achieve such aspirations equity criteria need to be developed and implemented to ensure that those marginalised in society have their needs met. The incorporation of an intersectional consideration could improve the understanding of differing needs and enable more targeted approaches to improving mobility and accessibility.

5. Transport policy

We are mindful of the substantive progress made by scholars in the field to address gender equality in transport policy (Hamilton et al.,2005; Polk, 2008) and of the adoption of gender mainstreaming into policy at an international level. However, adopting a policy approach with a singular focus i.e., issues of gender, leads to false classifications and oversimplifications that do not accurately reflect lived experience. Similarly using an additive approach (Hancock, 2007) where different characteristics are added to another does not address the interplay between characteristics such as inequality and discrimination. Adopting an intersectional or diversity mainstreaming approach to transport policy can become a smarter form of mobility justice.

To do this the work of academics (such as Levin & Faith-Ell, 2019; Polk, 2008; Roemer Christiansen et al, 2007; Breengaard, et al.) should be used to incorporate gender mainstreaming into European transport policy. Following the inequalities revealed in the pandemic, adopting an intersectional or diversity mainstreaming approach to transport policy can enable gender smart mobility to become a smarter form of mobility justice.

6. Gender mainstreaming

The concept of Gender Mainstreaming (GM) was defined in 1997 by the ECOSOC (UNWomen, 2020) as a strategy for making women's as well as men's concerns an integral dimension at all levels of policy. As such GM has been adopted in transport policy at the international and European level (EIGE, 2020). However, GM has not been applied well at a national level with only Sweden and the Nordic regions showing a history of incorporating GM and gender equality goals into public policy and gender equality is an objective in all policies (Polk, 2008). Similarly, in Austria GM has been embedded in planning and policy design (Telepak: SUMP Network-EU Vienna, 2014).

GM has been criticised for singling out gender as the primary category for equality. It not only fails to recognise diversity among men and women but as Hankivsky (p 218, 2011) argues it perpetuates the additive approach where differences are added to the variable of gender which subsequently reinforces the privilege of certain groups. In Austria the use of the word gender in the context of urban planning and policy has been shown to reinforce stereotypes when considering how to characterise differences between how men and women use space. This has led to the use of the term *Fair Shared City* (Irschik and Kail, 2013). GM has also struggled to become adopted in developing countries where gender blind organisational leadership has meant a weak commitment to gender equality. Although, GM can significantly advance gender parity in transport policy, the concept is largely Eurocentric and the non-standardised approach to uptake has led to a fragmented response particularly to tackling gender, diversity and racial inequality which makes it difficult to assess what progress had been made. In its acknowledgement of these issues, the TInnGO project moved its emphasis away from Gender Action Planning and Gender Mainstreaming to Gender and Diversity Action Plans and Gender and Diversity Mainstreaming, and developed a set of operational tools and methods to support transport stakeholders in developing actions to reduce inequalities,

7. Delivering gender smart mobility

Intersectionality based policy analysis (IBPA) is a relatively new line of inquiry but has been well researched in the health literature (Viruell-Fuentes et al, 2012; Hankivsky, 2012; Bowleg, 2012). Its nonlinear approach offers greater flexibility in consideration of the context of place and diversity (Hancock, 2007) with the relationship between identity categories considered as an open empirical question, free from the assumption that any category or intersection deserves 'a priori' status.

'IBPA is intended to capture and respond to the multi-level interacting social locations, forces, factors and power structures that shape and influence human life and health. Its aim as a policy tool is to better illuminate how policy constructs individuals' and groups' relative power and privileges vis-à-vis their socio-economic-political status, health and well-being' (Hankivsky et.al, 2014). Various intersectional policy frameworks have been developed (Hankivsky et.al, 2014; Davaki et al., 2013) for health, gender and disability policy, which could be applied to smart mobility policy if used in conjunction with research on transport inequality (NatCen, 2019; Crisp, et al, 2018; Lucas, et al., 2018). Hankivsky et al's model comprises two core components: a set of 8 guiding principles based on intersecting categories, multi-level analysis, power, reflexivity, time and space, diverse knowledges, social justice and equity and 12 overarching questions (as shown in Table 1 below) to help develop the analysis; both sections are designed to be used in conjunction with each other.

Table 1: Descriptive and transformative overarching questions of IBPA (Hankivsky et.al, 2014)

Descriptive	What knowledge, values and experiences do you bring to this area of policy analysis?
	What is the policy problem under consideration?
	How have representations to the problem come about?
	How are groups differentially affected by the representation of this problem?
	What are the current policy responses to the problem?
Transformative	What inequities actually exists in relation to the problem?
	Where and how can interventions be made to improve the problem?
	What are feasible short- and long-term solutions?
	How will the proposed policy responses reduce inequities?
	How will implementation and uptake be assured?
	How will you know if inequities have been reduced?
	How has the process of engaging in an intersectionality – based policy analysis transformed Your thinking about relations and structures of power and inequity The ways in which you are others engage in the work of policy development, implementation and evaluation Broader conceptualisations, reflections and effects of power asymmetry in the everyday world

When comparing the Intersectional framework questions to transport inequality reports it is clear there are significant similarities, each relate to Power, Social Justice and Equity together with intersecting characteristics such as (but not limited to) gender, race and class. We are of the opinion that when developing policies for

smart mobility both topics of transport inequality and intersectionality should be at the fore front of the design process in order to develop more inclusive diversity mainstreaming policies.

8. Conclusion

In this paper we have discussed how SM could be a more intersectional form of mobility justice. Significant advances have been made over the last 20 years in the adoption of GM in transport policy, however the progress of women in the transport sector both as employees and as transport users has not kept up with this progress. Even when gender equality is enshrined in law this does not appear to be a tangible reality for many women. EU policy has adopted GM as a policy objective with intersectionality as a horizontal principle, however there is no reference to how this can be achieved.

It must be noted that there are limitations to adopting this approach. Intersectionality is complicated and requires expertise; further research should be undertaken to develop tools that can measure the simultaneous effects of intersections and equity in transport. One way could start with the collection of disaggregated data, the quality of data will provide the foundations for thorough intersectional analysis. Novel forms of data, using innovative methods of data collection and grater inclusion of qualitative inquiry would also better reflect the lived experience of citizens. It is important also to note that Intersectionality analysis focuses on the axes of oppression and power. Challenging established structures of power requires policy makers to develop new ways of thinking and there may be resistance to change. However intersectional analysis offers an opportunity for debate about how differences relating to (but not limited to) age, gender, race, income and ability can influence how mobility is experienced and factors such as safety and risk for women and diverse groups can be better understood.

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Gender and Entrepreneurship: Exploring High Growth WomEntrepreneurs Socio-Economic myth and Gender Stereotypes

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Abstract: The rise of women entrepreneurship as an economic stimulator globally as seen recently is not only heard in social or economic debates, but also in gender related issues. Thus, this paper argues the need for WomEntrepreneurs contribution to the economy and society in general to be recognized and at the forefront. Women are one of the groups that are underrepresented and under-researched in entrepreneurship studies. They are classified and treated under the same umbrella of beings with no capability of managing and growing a business beyond profit making with employees than their male counter-parts. Even though, they have different backgrounds, are brought up differently, accessed opportunities (including their access to different market) and resources differently. Research indicate, women are better educated, skilled and start businesses that have growth potential. That is, there are a select few High-Growth and Impact WomEntrepreneurs among the female population. These High Growth and Impact WomEntrepreneurs, even strive under great resource scarcity and high uncertainty. This is despite the challenges of stereo types that want women to constantly prove themselves. The word "WomEntrepreneur, High Growth and Impact WomEntrepreneur and WomEntrepreneurship" has been coined by the researcher to identify opportunity driven women entrepreneurs within the "high growth" women entrepreneurship space which adds as a contribution, and might also prove useful in entrepreneurship studies. Gender plays a huge role in society, as men tend to have easy access to education, business, family and financial support and their businesses are growth driven and perform very well financially. While on the other hand, data indicate that, women find it difficult to secure financial resources. Hence, the aim of this paper is to discuss High-Growth and Impact WomEntrepreneurs, as a recognized gender of recent times in growing global economies and the individual factors (tested: confidence and risk-taker, reliability and determination) that drive this phenomenon. The paucity of studies addressing women theories and individual WomEntrepreneurs entrepreneurial attributes has led the call for incorporating the validated SIGMO Model, which considers the individual, the firm and the environment, as tested in South Africa which is considered as an economy that is still developing, using data collected from WomEntrepreneurs. WomEntrepreneurs are identified as highly educated than their male counter-parts. The paper addresses High Growth and Impact WomEntrepreneurship as a gender issue and also looks at the individual factors that influence and propel WomEntrepreneurs into High-Growth and Impact WomEntrepreneurs. Thus, in order to answer the research question of this study: How High-growth and Impact WomEntrepreneurs contribute to economic growth? The study undertook a quantitative research method, where online surveys were undertaken to access High Growth and Impact WomEntrepreneurs individual factors that positively contribute to High Growth Formation in firms managed by High Growth and Impact WomEntrepreneurs. Recommendations to policy makers have been drafted, which will encourage and support such an activity to sustain, grow and remove stereo types.

Keywords: high growth and impact womentrepreneurship, high growth and impact womentrepreneurs and gender

1. Introduction

The World Health Organisation regards gender as a social construct which varies from society to society and changes over time. The organization defines gender as characteristics of female and male that are socially constructed. This includes norms, behaviours and roles associated with being a women or a men as well as relationships with each other (WHO, 2022). High Growth and Impact WomEntrepreneurship plays an important role as a source of economic growth through job creation and creating positive societal impact across economies.

The participation of women is viewed as a prime contributor, as their contribution might be substantial (Singh & Belwal 2008; Smith-Hunter & Boyd 2004). Despite their participation and contributions, for decades, women entrepreneurs have been less well understood than previously thought. Studies have noted that 'women', are perceived as lacking education, ambition, and expectation (Brown et al. 2017; Mamabolo 2017; Marvel, Davis & Sproul 2014; Unger, Rauch, Frese, & Rosenbusch 2011), even though the literature has established that human capital investments are sources of knowledge and skills (Mamabolo2017).

The belief that women should be held responsible for their circumstance, have stressed the importance of researching men and women as separate entities to provide a clear view that will move women beyond victim blaming (Ahl & Marlow 2012). Ahl & Marlow 2012, argue that, WomEntrepreneurship has been based on the liberal feminist view that sees or treats women as equals with men, thus assuming barriers lead women to

underperform. An implicit assumption is that the individual entrepreneur is "generic" and does not differ except when contrasted to non-entrepreneurs (De bruin et al. 2006).

That is, as illustrated by (De Bruin et al. 2006, p. 586) in his argument that "there is no need to study women separately because women and men entrepreneurs would have similar characteristics". It is important to note that, the assumption ruled out the possibility that theories were developed on samples of men, by men, and ultimately tested primarily on samples of men (De Bruin et al. 2006), which did not fully capture women's entrepreneurial traits and behaviour (Hurley et al. 1997), until other samples of 'women' are considered (De Bruin et al. 2006).

As a result studies have noted that women are classified and treated as a single population, and also failed to understand that womentrepreneurs are different (Brush, Ali, Kelley, & Greene 2017; Hughes, Jennings, Brush, Carter, & Welter 2012). The truth is womentrepreneurs are different in terms of their background, how they were brought up, access to opportunities, markets and resources (Gartner 1985; Hughes et al. 2012). For instance, Gatewood et al. 2003 highlighted that, there are differences among groups of women in terms of background characteristics, how they grow, and other dimensions from empirical studies.

Thus, the recognition of High Growth and Impact WomEntrepreneurship provides economic opportunities, wealth and job creation and a number of WomEntrepreneurs are seeking to penetrate the world of Entrepreneurship, despite the risks, expenditure, time and energy it takes to manage a firm (Ascher 2012). Aidis & Weeks 2016 defines High-Impact women entrepreneurship as firms headed by women that are market-expanding, export-oriented and innovative.

For this study, High Growth and Impact WomEntrepreneurship is defined as an individual act or process that happens within the firm, measured with multiple factors to understand the process, firm outcomes and their social impact that happens under severe and harsh conditions (Acs & Naudé 2012; Ahmad & Hoffmann 2008; Ahmad & Seymour 2008; Badal 2010; Badal & Streur 2014; Carree & Thurik 2010; Minniti & Naudé 2010; Robbins, Pantuosco, Parker, & Fuller 2000; Shane & Venkataraman 2000; Smith-Hunter & Boyd 2004).

High Growth and Impact WomEntrepreneurs for this study is defined as an ambitious opportunity driven high growth firm and impact women entrepreneur adopted from various authors (Ahmad & Hoffmann 2008; Herrington & Kew 2016; Kelley et al. 2017; World Bank 2016). The study adopts Acs & Armington (2006 p155) who defined entrepreneurship as "the process by which agents transform knowledge into wealth through new firm formation and growth, and then reconstitute wealth into opportunity for all through philanthropy". The study adopted Self-Regulation Theory (SRT) as high growth individual entrepreneurs process information differently and are motivated to self-regulate in order to produce effects on achievement, self-esteem, interpersonal relations, and development (Molden & Dweck 2006).

2. Literature review

2.1 WomEntreneurs

The shift in academic focus from small medium enterprise (SMEs) to high growth firms (HGFs) from an economic and policy perspective (Mamburu 2017) has a huge role in women entrepreneurship. Literature classify high growth firms as a small group of highly innovative firms that impact almost 80% of all economic activities (Brown et al. 2017; Monteiro 2019; Turnbull & Richmond 2018; Urban et al. 2008), such as job creation, poverty reduction, wealth creation for the owners and the economy, promoting innovation, and formalising the informal sector 'through training of other women' (Ahmad & Hoffmann 2008).

Despite the shift, research indicate a paucity of empirical evidence that place focus on the significant impact of entrepreneurship in general, currently characterised by a rate of three (3) to six (6) percent (Audretsch 2012; Herrington et al. 2017; OECD 2007; World Bank 2016). This could be due to a lack of data in WomEntrepreneurs, especially on high growth WomEntrepreneurs in WomEntrepreneurship scholarly research in South Africa and globally. This paucity of research on women's entrepreneurship is well documented (Brush 1992; Brush &Edelman 2000; Gatewood, Carter, Brush, Greene, & Hart 2003; Terjesen 2004).

Again, previous studies indicate that there are similarities between male and female business owners across demographic characteristics, business skills, and more psychological traits (Hagan, Rivchum & Sexton 1989). That is, men and women entrepreneurs are classified as generic, meaning they posit similar attributes. Also, differences between male and female business owners were found in educational and occupational background, motivations for business ownership, business goals, business growth, and approaches to business creation (Brush 1992). In all of these examples and many others, to date, these differences have been recognized but not fully explained. Hence, this argument resonated with calls for more focused research on WomEntrepreneurs (De Bruin et al. 2007; Hughes et al. 2012; Kelley et al. 2017), and the general entrepreneurship literature alike (Herrington & Kew 2016; Herrington et al. 2017; Hughes et al. 2012).

Studies have recognised that women entrepreneurs impact social lives worldwide (Jennings & Brush 2013), yet their entrepreneurial impact contributions are not celebrated (Bruton, Ahlstrom, & Obloj 2008; Carree & Thurik 2003; Naudé 2013; OECD 2010; Van Praag & Versloot 2007). This resonate with women being known to own less economically sustainable businesses compared to their male counter-parts, an assumption that stems from consistent privilege of masculine norms within entrepreneurship studies enjoyed by men, reinforcing the implicit assumption that there is a singular (masculine) model of successful performance (based on economic growth and rationality), that defines entrepreneurial leaders (Kimbu, de Jong, Adam, Ribeiro, Afenyo-Agbe, Adeola, Figueroa-Domecq 2021).

Thus, empowering women holds enormous benefits for the global economy. A number of WomEntrepreneurs in recent years have adopted entrepreneurial activity (Ufuk & Ozgen 2001), which contributes significantly to economic growth worldwide (Kelly, Brush, Greene & Litovsky 2011). Managing and establishing millions (274 million) of existing (established) and new businesses in various economies (74 economies) globally (Kelley et al. 2017). This is shown by the encouraging data recently published on Gender Equity, for instance in South Africa the ratio of male to female entrepreneurial activity has changed from 1.52 (12.5 men to 8.2 women) in 2017 to 1.4 (10.9 to 9.6) in 2019, meaning women entrepreneurship is growing (StatsSA 2021).

The data emphasize the contribution women make to entrepreneurship globally. Hence, doing things more effectively and efficiently, enable firms contribute to economic growth, rise in wages, improve work environments, and enable a higher standard of living (Ascher 2012). This is despite the struggles they encounter to secure finance. The Harvard Business Review 2021 reported that WomEntrepreneurs often deliver double returns than other businesses. Also, a study conducted by the Center for Women's Business Research in 2009 measured the economic impact of the eight million women owned businesses in the US. The estimated economic impact was $3 trillion annually that translated into the creation and/or maintenance of more than 23 million jobs – 16% of all jobs in the US market (Center for Women's Business Research 2009; Ascher 2012 p97). For instance, advancing women's equality could add $12 trillion to the global economy by 2025 (McKinsey Global Institute 2021).

2.2 Personal qualities

Research on European start-ups (Audretsch 2012) suggests that educational background, prior experience in the relevant industry, and prior experience as an entrepreneur, or working at a start- up are all significant in determining whether a firm will exhibit high growth. In the African context, Fafchamps & Woodruff 2014 conducted an experiment to test whether business plan competitions are able to identify potential HGFs, and they find that ability and management practices are significant determinants of whether a firm will experience higher growth (Mamburu 2017).

Again, research indicate that, identified gender differences are in terms of management style, organizational structure of the enterprises, and the degree of empowerment in them (Ascher 2012). Where, common characteristics include age, education, work experience, networks, skills and knowledge spill-over (Audretsch 2012; Badal & Streur 2014; Goedhuys & Sleuwaegen 2010; Njiro, Mazwai, & Urban 2010; Ramachandran & Shah 1999; Urban 2012; Urban et al. 2008).

Hence, High-Growth and Impact WomEntrepreneurs tend to be an educated cohort of entrepreneurs. This is supported by Herrington and Kew (2016) and Kelley et al. (2017); Lange et al. (2018) and the World Bank (2016) where they reported that the number of entrepreneurs with degrees has increased over the years. Cowling &

Taylor (2001) also reported that women entrepreneurs have better education than men, and that in the 1990s men entered entrepreneurship in considerably greater numbers than women.

Thus, the opportunity for starting a business might increase with age because many entrepreneurial resources accumulate with age including human capital, financial capital, and social capital, all of which may promote both the decision to start a new firm and, conditional on entry, the success of the venture (Azoulay et al. 2018). For instance, a recent study found that the average age of entrepreneurs managing high growth firms (HGFs) is significantly more than 40 years (Aagaard & Senderovitz 2015; Brown et al. 2017).

This is supported by the interview-based studies conducted in the United Kingdom which corroborated that these entrepreneurs tend to be older and more experienced than the common depictions of fast-growing start-ups (Brown 2016; Brown & Mawson 2016; Brown et al. 2017). However, Minnitti & Arenius (2003) state that participation in entrepreneurial activities does not vary between countries and genders with respect to age, as both men and women involve in such activities around 25-34 years of age and those over 55 have the lowest rate of participation, among both men and women

Converting innovation into rapid firm growth requires skill, much of which can only be gained through experience (Autio & Rannikko 2016). Prior work experience greatly enhances the growth performance of entrepreneurs (Acs & Mueller 2008). As noted by Badal & Streur (2014), an entrepreneur's firm performance is affected by bounded rationality, inherent biases in probability perception and biases in self-perception. Urban et al. (2008) noted that small fast-growing firms tend to be led by entrepreneurs with more work or entrepreneurial experience. These qualities are outlined by the SIGMO MODEL below which has been tested, confirmed and validated.

2.3 Theoretical concept

Research indicate that, there is research paucity in individual attributes that lead women to succeed in business. The paucity in research was brought about assumptions as noted from prior research on entrepreneurship that men and women entrepreneurs posit similar attributes such as demographic characteristic, business skills, and some psychological traits, amongst others (Brush 1992; De Bruin et al. 2007; Yadav & Unni 2016). The noted assumption was that the individual entrepreneur is "generic", meaning there is no difference between men and women (De Bruin et al. 2006). Hence, the need to study women individual attributes separately was not an option as women and men entrepreneurs posit similar characteristics. That is "broadening of both the questions that are asked as well as the potential explanatory factors that are investigated" (Hughes et al., 2012, p. 5).

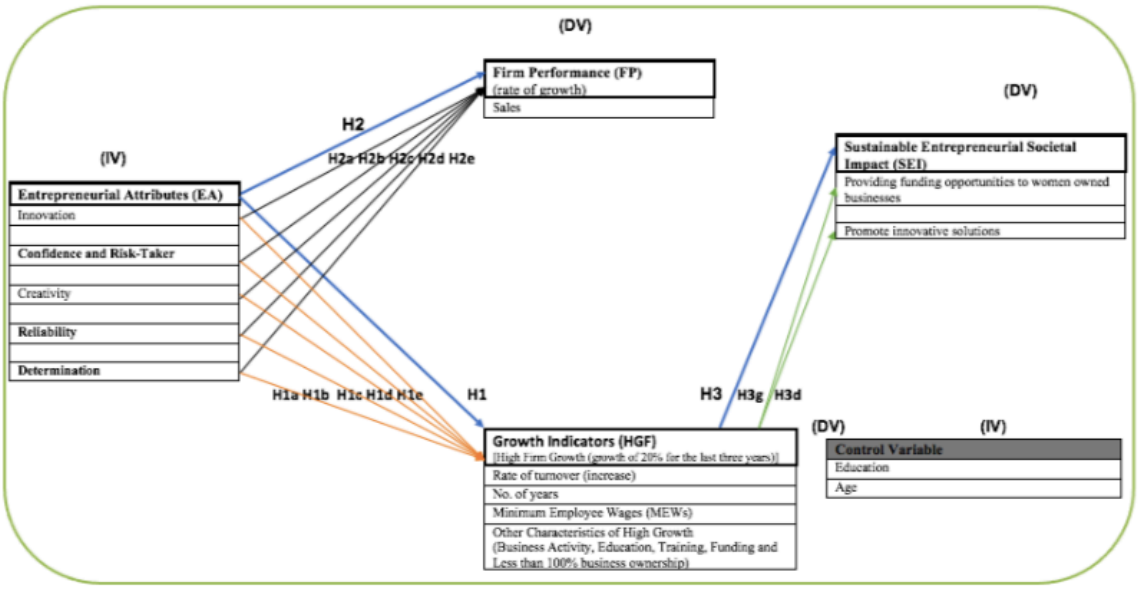
A topic in high growth firms and high growth women in entrepreneurship is characterised by a paucity of theoretical research. Not much is actually known about high-growth firms, and even less is known about high-growth entrepreneurship (Audretsch 2012). In furtherance of this argument, Moses, Olokundum & Mosunmola 2014 notes that it is not sufficient to just evaluate factors that can encourage women to go into business. That is, there is need to develop theoretical framework and models to support these factors (Kjeldsen and Nielson, 2000; Mansor 2005).

It is upon this premise that the theoretical framework of this study emerged. Thus, in analysing the conditions for the emergence of high growth entrepreneurship, three strands of literature converged, based on economics, management, and psychology (World Bank, 2016). The three strands of literature produced entrepreneurship framework models used in Small Medium Enterprise research studies. Ahmad and Hoffmann (2008); Gartner (1985); and Wennekers and Thurik (1999) and others have made attempts to develop models for determining that entrepreneurship occurs at individual, firm/organization and environmental level.

The study adopted confidence, risk-taker, creative thinker, determination and relationship builder as an antecedent of High Growth Women Owned Firms. After regression analysis was performed, three antecedent of High Growth WomEntrepreneurs emerged and were validated, which are confidence and risk-taker, reliability and determination. That is, High Growth and Impact WomEntrepreneurs are confidence and not afraid to take calculated risks, they are reliable and determined hence they build successful businesses and impact social lives.

The model has been tested and proven using High Impact and Growth WomEntrepreneurs using data collected in South Africa. Building on the work of Gartner 1985; Wennekers and Thurik 1999; and Ahmad and Hoffmann

2008, the theoretical model as shown in figure 1, is based on the link between an individual and sustainable societal impact operating under severe uncertainty and constrained situations. The model understands that women entrepreneurs are different (Hughes et al. 2012; Kelley et al. 2017), in terms of their background, how they were brought up, and other dimensions such as access to opportunities, markets and resources (Gartner 1985; Hughes et al. 2012).



SIGMO MODEL

Source: Researcher's own tested, validated and confirmed formulation adapted from Gartner 1985; Ahmad and Hoffmann 2008; Gartner 1985; Wennekers and Thurik 1999.

Figure 1: Valid, tested and confirmed new High Growth Firm SEGMO MODEL framework

The new formulated High Growth Firm Model "SEGMO" stand for Sustainable Entrepreneurial Growth Model, and it indicate that entrepreneurship occurs at an individual level, at the organisational (firm) level as well as the environment in which the firm operate in, which plays a major role (Wennekers & Thurik 1999; Carree & Thurik 2010; Gartner 1985).

3. Discussion

The paucity of research on high growth women entrepreneurial behaviour is constructed and experienced around the globe (Hughes et al. 2012; Mandipaka 2014). Hence, the study investigated factors that contribute to emergence (growth), performance and entrepreneurial sustainable societal impacts of high growth firms owned by women and assessed the extent to which these factors impact on high growth firms. This includes the measurability of individual entrepreneurial attributes, not just the existence of being born male or female (Ahl 2006), that contributes to the success of high growth firms. Thus, the study contributed theoretically (Yadav & Unni 2016), by investigating individual attributes of High Growth and Impact WomEntrepreneurs.

This research relied on a quantitative method to answer research question of this study, that explore generally tested and validated entrepreneurial attributes, to identify individual entrepreneurial attributes or personal qualities that contribute to high growth firms. The focus on individual attributes stems from the fact that the entrepreneur is at the very centre of the process of high growth firm creation, and the theory used in this study. Therefore, this constitutes a necessary condition for the phenomenon of entrepreneurship to occur. That is, in 2003 Shane claimed that entrepreneurship is a self-directed activity and does not occur spontaneously. The assumption is that high-growth individual entrepreneurs are conscious and personally manage themselves by guiding their thoughts, behaviours, and feelings to reach success goals.

This was also done analytically by gathering data on high growth women entrepreneurs ensuring their success stories are highlighted and focus was placed on women entrepreneurship as a social change activity with different impact outcomes (Cala's, Smircich, & Bourne 2009; Hughes et al. 2012). That is "broadening of both the questions that are asked as well as the potential explanatory factors that are investigated" (Hughes et al.

2012, p. 5). Similarly, the study responded to a call made by the World-Bank (2016 p. 10) "to increase the evidence base available to clarify what the determining factors are for a high-growth firm to emerge and grow".

The argument lies in appreciating the advantages of being a women entrepreneur (Hughes et al. 2012; Singh & Belwal 2008). Women enjoy the advantage of being recognised as drivers of sustainable economic development (Kelley et al. 2017), and the explanation lies through increasing evidence in understanding individual entrepreneurial attributes that drive high growth women entrepreneurs. Thus, individual attributes toward risk-taking are vital to the entrepreneurial activity of women entrepreneurs (Ekpe et al. 2011), other than socially or at the institutional level (Ahl 2006; Kelley et al. 2017).

That is, women are unique (Goedhuys & Sleuwaegen 2010; Kelley et al. 2017; Sleuwaegen & Goedhuys 2002; Yadav & Unni 2016), and there is confidence that the new direction taken in this study to build on knowledge with a focus on high growth women produced rich data, increased robust evidence in understanding high-growth women entrepreneurs and their endeavours and give more voice to women in future (Hughes et al. 2012).

4. Conclusion

The field of Entrepreneurship has evolved into a mature stage and that of WomEntrepreneurship is still in it's infancy, in which the majority of enabling components are identified. Thus, an increase in WomEntrepreneurship represents a significant yet hitherto unrecognised engine of economic growth (Hughes et al. 2012; Sarfaraz et al. 2014), especially in developing countries (Gundry et al. 2002; World Bank 2016). WomEntrepreneurship is one of the outstanding phenomena in modern economy.

WomEntrepreneurs have greater confidence, take risks, are reliable and determined in their skills and abilities to build their enterprises equally, if not more successfully, than men. A growing number of Women participating in entrepreneurial activities reflects the transformation in economic and social fields. Women entrepreneurship has a strong effect on economies by increasing employment and sales, as well as economic development and growth (Ascher 2012).

Individual capability is a critical factor for driving growth, given the constraints, uncertainty, and harsh conditions imposed by the firm environment and firm technology misfits as a part of high growth. This is supported by the sustainable entrepreneurship growth model (SEGMO) in this study, which is opportunity and success-driven. Thus, SEGMO depicts the individual (entrepreneur), the organisation (firm), and the environment (impact outcomes), that is, the individual entrepreneurial attributes influence the organisational firm performance to ensure that the firm achieves success in terms of profit sales and social impact. This means that the entrepreneur must have entrepreneurial self-efficacy (i.e. ability and skills) to run and grow a successful business.

Thus, women with individual entrepreneurial attributes and educational attainment coupled with experience are more prone to own and manage high growth firms, however their success stories are rarely celebrated. Hence, new insights that identify what drives women entrepreneurs and make them different from the rest are relevant from a policy-making perspective.

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Gender Quota Legislation has no Spillover Effect on Hiring of Female CEOs

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Abstract: Iceland is a global leader in gender equality. Nevertheless, women face apparent exclusion from senior executive positions, and men hold 19 out of 20 CEO positions at listed companies. This study sheds light on the hiring process for CEOs of listed companies and on why the increased number of female board members has not led to an increased number of female CEOs. The research question is as follows: How do women on boards of listed companies experience the CEO hiring process with regard to equality of opportunity for male and female candidates? The study reports findings from interviews with 22 women who collectively sit on the boards of all of the listed companies in Iceland. Findings reveal a deep dissatisfaction with the prevailing CEO hiring practices, which they experience as a fast-paced and closed process, heavily reliant on board members' networks and headhunters' lists. The interviewees find that the outcomes exclude women, and they are conflicted about their own participation in the process. They voice the need for inclusion and call for disruptive tactics, more courage and gender quotas at the executive level. The main contribution of this research is that for the first time, female board members of all listed companies in one country have been interviewed to shed light on their experiences of the hiring process for senior management positions.

Keywords: CEO hiring, exclusion, gender equality, women on boards.

1. Introduction

Iceland has played a pioneering role in women's political leadership with the first female president, and women have been both prime ministers and mayors. Women's labor market participation in Iceland is the highest in the world, and parental leave and child-care policies, underpinned by gender equality, aid labor market inclusion. However, the upper echelons of the labor market remain male dominated. In 2021, women represented only 25% of all CEOs in the country and 5% of CEOs of companies listed on the Nasdaq stock exchange in Iceland (Statistics Iceland, n.d.). Moreover, in the 35 years since the stock exchange opened in Iceland, only four women have headed listed companies. Gender quota laws for corporate boards, enacted in 2010, were intended to close the gender gap in corporate leadership. They have balanced the gender ratio on corporate boards but have not had the expected spillover effect on CEO appointments (Óladóttir et al., 2021); findings in Norway were similar (Bertrand et al., 2019). The top management teams in Icelandic corporate hierarchies remain highly homogeneous, largely comprised of men of similar ages, backgrounds, education and origins, and who even tend to reside in the same neighborhoods (Einarsdóttir et al., 2020; Óladóttir et al., 2019).

The study aims to understand the experiences of women who sit on the boards of listed companies and participate in CEO recruitment and decision-making, including how they experience the process and equality of opportunity for male and female candidates. These women board members were expected to implement changes and improve the CEO gender ratio at listed companies and have faced criticism for failing to do so (Óladóttir et al., 2019).

2. Icelandic context

Gender inequality remains a global phenomenon. According to the World Economic Forum's *Global Gender Gap Report 2021*, COVID-19 has set the world back, such that it will take more than 135 years to reach full gender equality (WEF, 2021). Equality is assessed on a scale, where 100% denotes perfect equality; currently, the world average is 68.6%. Iceland has made the greatest progress towards closing the gender gap, scoring 89.2% (Óladóttir et al., 2021). Despite the advancement of women in various areas of society, formal gender equality, increased education and increased employment in recent decades, women's power and influence in the private sector remain limited, indicating a persistent glass ceiling that women encounter when seeking positions of power in companies. Women have historically been significantly underrepresented on boards of directors in Icelandic companies, spurring demands for gender quotas (Óladóttir et al., 2021).

In 2010, the Icelandic Parliament enacted legislation stipulating that either gender should constitute at least 40% of the board of directors in companies with more than 50 employees. The act took immediate effect for

official public limited companies, but public limited companies were given a grace period until September 2013. This made Iceland the second country in the world, after Norway, to implement such quota legislation. These gender quota laws have had significant effects on the gender composition of corporate boards; in 2010, the proportion of women on the boards of listed companies in Iceland was 16% but rose to 48% in 2013 when the law had fully taken effect (EIGE, 2019). While the ratio of women to men on boards has never been higher than in the year in which the law came into force, the legislation has achieved the intended effect on corporate boards (Statistics Iceland, n.d.).

Men nonetheless continue to outnumber women as board chairpersons. In 2000, women chaired 10% of the boards at medium-sized companies – that is, those with 50 to 99 employees – and that proportion increased to only 13% in 2017. The greatest increases were at large companies, where the proportion rose from 6% in 2000 to 18% in 2017, and at the largest companies, where the proportion of female board members rose from 0% in 2000 to 13% in 2017 (Statistics Iceland, n.d.; Óladóttir et al., 2019). In 2021, women represented 46% of board members of listed companies in Iceland, and all boards met the quota, with either gender representing at least 40% of the board. According to OECD statistics, at 46%, Iceland had the highest proportion globally of female board members in publicly listed companies in 2021. France came second, with 45.3%, and Norway was third, with 40.2%. In OECD countries, between 3.3% and 46% of board members are women, and the OECD average is 25.5% (OECD.Stat, 2021). Non-OECD economies are all well below the OECD average, except South Africa, where 27.4% of board members at listed companies are women.

The proportion of top management positions held by women is out of step with the rest of Icelandic society because labor market participation among both men and women has consistently been high in Iceland and is among the highest in OECD countries. Women entered the labor market at an increased rate in the 1970s, and by 2018, 78% of women participated in the labor market, while 85% of men participated (Statistics Iceland, n.d.). This has been aided by a generous parental leave system, guaranteeing the right of parents to return to their jobs after childbirth, and the right to childcare for young children. These policies aim to provide both parents greater equality of opportunity.

Women's chances of obtaining leadership positions in Icelandic companies appear to be inversely related to company size. According to data from Statistics Iceland (n.d.), women represent 24% of CEOs of companies with one to nine employees, 19% of those with 10–19 employees, 16% of those with 20–49 employees, 17% of those with 50–99 employees, 12.7% of those with 100–249 employees and 14.6% of large companies with 250 or more employees (Statistics of Iceland, n.d.). In listed companies, women represent 24.3% of the executive management team and hold 5% of CEO positions. It is therefore clear that in the decade since the enactment of the laws on gender quota on company boards, there has been no spillover effect on the number of female CEOs in listed companies in Iceland.

3. CEO recruitment

CEO hiring is one of the most important tasks of corporate boards (Balsmeier et al., 2013). According to Charan (2005), most boards fail at this task; they hire CEOs who perform poorly, and turnover is high. During the new CEO transition period, firms are in a vulnerable stock market position and are subject to rivals' opportunistic exploitation of the situation (Burchard et al., 2020). This phase of vulnerability may explain why fewer women are appointed as CEOs or why there is a perception that hiring a female CEO may have a detrimental effect on stock prices. There are indications that the market tends to react negatively to the announcement of the appointment of a woman as a CEO but less negatively if it is through internal succession (Lee & James, 2007). The negative reaction thus appears to be partly fueled by the perception of risk, which is offset if the woman is an insider with firm-specific knowledge and experience. Martin et al. (2009) did not find any difference in the market's reactions to announcements about male CEOs compared to those about female CEOs, but there were indications that female CEOs were expected to be more risk averse. Despite extensive research into women's leadership and company performance, there is scant evidence that the lack of female CEOs can be explained by poor company performance; moreover, there are indications that the presence of women in senior leadership positions may in fact improve company performance (Nolan et al., 2016).

Recruitment and selection procedures are often not sufficiently inclusive, meaning they mainly attract and select candidates whose background and characteristics match the profile of existing staff (Panteia, 2015). Business elites in particular lack diversity, and CEOs tend to come from similar backgrounds (Ellersgaard et al., 2013).

Elements of homosocial reproduction (Kanter, 1977) are also apparent among business elites (Holgersson, 2013; Holgersson et al., 2016), and while the characteristics of elites may vary from country to country, within each country they tend to be homogeneous (Ellersgaard et al., 2013). In addition, the pools of CEO candidates tend to be small, and directors evaluating CEO candidates worry that few individuals have the extraordinary qualifications they deem necessary to succeed in the CEO role (Donatiello et al., 2018; Christiansen et al., 2021). Moreover, directors are more concerned with cultural fit, narrowing their focus even further. Board composition has also been found to influence the choice of CEO; the board is likely to select and hire a candidate who shares the same characteristics as the board members (Zajac & Westphal, 1996; Christiansen et al., 2021). Some have found that the likelihood of the appointment of a woman as a CEO increases as the number of women on the appointing board rises (Elsaid & Ursel, 2011). However, the increase in the number of women on corporate boards in Nordic countries has yet to deliver the expected increase in the number of female CEOs (Bertrand et al., 2019; EIGE, 2019).

In the executive search process, corporate boards typically engage the services of headhunting or executive search firms. Headhunting is a definite method of hiring managers and has been increasing considerably in recent years. Companies do not advertise positions but seek specific individuals, who are usually already employed at another company. This means that the process is closed, and many potential candidates cannot apply. Chamorro-Premuzic (2013) has criticized the executive search process, finding further explanations for the lack of women in senior positions in the tendency of decision makers to trust candidates' displays of confidence and overlook their competence. This results not only in the selection of less competent leaders but also in a lack of diversity, as men are given preference over women.

Fernandez-Mateo and Fernandez (2016) did not find that executive search firms contribute to gender inequality in top-level positions. This is contrary to the findings of Meriläinen et al. (2015), who found that executive search practices disadvantage those who do not fit the ideal, such as women and other minorities. Moreover, Tienari et al. (2013) demonstrated how women were excluded at all stages of the head-hunting process, in profiling, shortlisting and presenting the candidates to the client firm. Women were measured against the masculine ideal rather than being valued on their own merit; men were the default standard, and women who differed from the standard were devalued. Although Fernandez-Mateo and Fernandez (2016) did not find gender bias in the practices of executive search firms, there were far fewer women in the talent pool, and a woman was thus less likely to be hired than a man.

4. Methodology

The aim of the study is to gain an understanding of the experiences of women who sit on the boards of listed companies and who have participated in CEO recruitment in that capacity. Under focus is their experience of participating in the recruitment process, their views on why the increase in the number of women on company boards has not had a spillover effect on CEO positions and their opinions on ideas such as gender quotas for executive positions. The following research question was posed: How do women on boards of listed companies experience the CEO hiring process with regard to equality of opportunity for male and female candidates?

The application of the grounded theory method foregrounds the experiences of the participants. The researchers do not predict or hypothesize about what the research may reveal but instead are open to discovery; the questions are designed to discover possible meanings. Grounded theory is particularly well suited for studies in the field of equality, diversity and inclusion, since it encourages researchers to center the participants' experiences and stories and deepen their understanding of the hegemonic aspects of organizational structures (Holloway & Schwartz, 2018).

To elicit responses from women who have experience with CEO recruitment at listed companies, women from the boards of all the listed companies in Iceland were recruited using purposeful sampling (Holloway & Schwarz, 2018). Interviews were conducted with 22 female board members. The average age of the participants was 52; the youngest was 38 years old, and the oldest 69 years old. Most of the participants worked in the private sector. Thirteen hold a business or economics degree, seven are lawyers, and two are engineers. The average time they have served on the boards of listed companies is 4.5 years, and they have all served on the audit committee or remuneration committee of those companies. In addition, they all have considerable experience, up to 30 years, as directors. The in-depth interviews lasted 60–130 minutes and were recorded and transcribed verbatim. To

ensure the anonymity of this easily recognizable group of women, the quotations are not attributed to individual speakers.

The interview transcripts were analyzed and coded according to the grounded theory method. The first step is open coding using line-by-line coding and in vivo codes to reflect the participants' experiences (Holloway & Schwartz, 2018). This step was followed by focused coding, in which codes from the first stage were grouped and categorized to reflect their meanings. Finally, axial coding and constant comparison were used to identify the emerging themes (Strauss & Corbin, 1998).

5. Findings

Four themes emerged in the analysis. The first three themes, professional process, exclusionary practices and the old boys' club, describe the participants' experiences of the CEO selection process. The final theme, courage, highlights possible solutions that the participants believe will increase the diversity of CEOs. Tables 1–4 outline the four themes and representative quotes.

***Professional Process*:** A distinct thread running through most of the participants' answers was their emphasis on the quality and integrity of the process. When they described participating in recruitment processes based on valid criteria and methods, they clearly felt that such processes led to hiring the most qualified candidate. However, when they described flaws in processes they had participated in, they tended to distance themselves and highlighted their own efforts to ensure the integrity of the process. For instance, they wanted to ensure the process would be professional despite knowing that it was futile, since the outcome had already been decided. They felt responsible for trying to ensure the quality and integrity of the process, even in situations where they knew that the outcome would be biased.

Many participants' descriptions depicted rigged outcomes, and the participants felt that the quality of the process was frequently disregarded. They were highly critical of how CEOs are recruited in general, and they felt disappointed by the outcomes. Yet, when asked directly about the processes they had participated in, they were ambivalent. They could find excuses for the choices that had been made, but they did not take ownership of those decisions and described them in the passive voice. Although they excused such decisions to some extent, they were also aware that the pressure to make quick decisions meant that the first candidate to fulfill the requirements would typically be selected, and no effort would be made to seek out a more diverse pool of candidates.

Table 1: First theme: Professional process

The participants feel responsible for ensuring the quality and integrity of the recruitment process even though they know the process is flawed.	"I agreed to take part in the process because I wanted to ensure that the process would be professional…The chairman wanted to hire a certain individual so I thought to myself that it would at least be important that I would ensure that this would be done really well" "Everything has always been decided already ahead of time" "He really checked all the boxes…because of what the circumstances were like, it was decided to expedite the process rather than enter into a wider search"

***Exclusionary Practices*:** The participants experienced three main flaws in the process, which all tended to exclude women. First, they described processes that were frequently informal and avoided advertising. They explained that the lack of advertising meant fewer women would be in the pool of candidates because this lack of formality and overreliance on board members' networks excludes women. However, they also tended to defend the boards' decisions not to advertise. In fact, there were contradictions in the descriptions of why the positions had not been advertised. The participants supported claims that advertising can be risky, as it exposes the firm's weakness, while also claiming that advertising is irrelevant because in this small market, everyone knows when a position opens up. A second issue they had with the process was how the profile of requirements was used. They experienced that unfulfilled requirements such as previous experience in a CEO position were used to reject female candidates, while male candidates who also lacked this experience were still considered for the position.

Third, they experienced the interactions with candidates during interviews and presentations as problematic. Although they identified with and recognized that women present themselves differently than men in interviews and realized that men can be overconfident in interviews, this appeared to be insufficient for them to make any changes to the process.

Table 2. Second theme: Exclusionary practices

The participants recognize how the prevailing practices are exclusionary for women, yet struggle to change them.	"Women respect more these formal approaches… they sit and wait for the job advertisement" "The number one requirement is that the individual must have CEO experience and you start the process and then suddenly some guys appear who most often have no CEO experience but somehow are hired in spite of that. I feel like men receive more breaks"

***The Old Boys' Club*:** Even though the number of women on boards is growing, and in a few instances, women are in the majority, the participants perceived the power to be in the hands of men. They described experiences of decision-making occurring away from the boardroom table and a feeling of not being included as real decision makers. They felt frustrated by the men who sit on the boards with them and described how the men blocked all efforts to include more women. They described what they felt was cronyism prevalent in men's networks and how it excludes even highly competent women both from decision-making and from obtaining CEO positions. The participants felt that by virtue of their financial influence and their networks, men promote and protect the interests of other men.

Table 3: Third theme: The Old Boys' Club

Despite sitting on the boards themselves, the participants felt that men are the decision makers, both at the boardroom table and outside of the boardroom. And those decisions favor other men and disregard women.	"Even though there are women on the boards … those who pull the strings are mostly men" "No matter which woman I proposed, the reaction was always 'No'." "The old boys' club also has influence and the guys are so damn effective in it…There are of course many women who have become phenomenally competent, but they somehow are not getting a seat at the table"

***Courage*:** All participants agreed that the gender ratio in executive teams should be more balanced, and most of them called for immediate and proactive measures. They felt that they had been making efforts to promote women but that the rest of the board members had lacked courage to support them. The participants felt that the responsibility for recognizing and developing talent lies with the organization, and they wanted board members to stop being afraid to hire women, even if their experience does not match that of men. They experienced the barriers to women's succession as systemic and in need of disruption: Boards must decide to prioritize gender equality if change is to happen. Some participants believed that a board decision to implement a gender quota on the executive management team was the disruption needed, since this would increase the number of women with exposure to the board as executive managers.

Table 4. Fourth theme: Courage

The participants envisioned the changes needed for improved practices and gender balance in CEO recruitment and how the ultimate responsibility lies with the whole board who must have the courage to recruit atypical candidates.	"The board as a whole must have more courage. It's not enough that one person is fighting for the selection of a woman" "It takes more courage to say, 'hey, I really like this one, she has this education, experience and vision that we want, you know. But she hasn't been CEO before. It takes more courage to hire like that." "This idea of gender quota on the executive level, because executive managers interact a lot with the board and as an executive, you can make yourself known to the board … so when the time comes to select the next CEO … then the board has had the opportunity to get to know you"

6. Discussion

The findings reveal female board members' underlying dissatisfaction with the prevailing hiring practices, which they find exclude women. They view CEO recruitment as predominantly a fast-paced and closed process, heavily reliant on board members' networks and headhunters' lists. Their feelings are conflicted; they have participated in the process of defining and following selection criteria that they acknowledge exclude women, but they appear to feel disempowered to enact the necessary change themselves. The women appear to come to terms with their own participation in the process by distancing themselves from what they deem to be questionable practices. They emphasize their efforts to propose female candidates but avoid discussing how they have participated in decisions that have excluded women. Nevertheless, they do place the responsibility for making the necessary changes squarely on the shoulders of corporate boards.

In line with previous research (Óladóttir et al., 2019, 2021), the women described experiences of gender bias in the Icelandic business environment, and the findings indicate that this bias extends into corporate boardrooms. The findings that the process is often flawed and exclusionary also support previous research (Merilainen et al., 2015, Tienari et al., 2013); the participants juxtaposed men's reliance on the old boys' club and backroom decision-making with their own efforts to ensure the quality and integrity of the recruitment process. Their experiences of male candidates being hired based on how confidently they present themselves, despite lacking the required experience and competence, are in line with previous research (Chamorro-Premuzic, 2013; Holgerson, 2013). Furthermore, they experienced recruitment practices as exclusionary (Tienari et al., 2013), but feelings of being outnumbered or not being part of the actual decision-making body, despite sitting on the board, hamper their efforts to make changes.

Although the overwhelming majority of the participants experience the processes as biased and exclusionary, they tend to have a positive outlook regarding gender balance and outlined a number of possibilities for enacting change. They realize that changing women is not the solution; systemic changes are needed. It is clear that many of them feel they lack support in their efforts to increase gender balance and emphasize that decision-making must be taken out of the hands of the old boys' club and given to the board and senior leaders of organizations. On the organizational level, senior leaders, including the board of directors, must decide to eradicate gender bias, which can be done by implementing succession planning and developing leadership. With succession planning and a comprehensive leadership pipeline in place, firms would be much better prepared to react quickly, implement CEO succession when the need arises and avoid many of the perils of the transition period (Burchard et al., 2020) and flawed execution of CEO appointments (Chamorro-Premuzic, 2013; Charan, 2005). The findings reveal that these female directors are aware that many highly competent women are rising through the ranks, and they want to implement leadership development practices that benefit both the firm and those women. An important finding is that many of them support the idea of a gender quota at the executive level as a step towards ensuring more inclusion (Óladóttir et al., 2021), but they do not favor legislative action; rather, they want boards to endorse such quotas.

Their focus on the need for courage indicates that in the participants' experience, other board members doubt or distrust the abilities of women to assume CEO positions. The homogeneity of the upper echelons in Iceland (Einarsdóttir et al., 2020; Óladóttir et al., 2019) may be reflective of homosocial reproduction (Kanter, 1977); however, the increase in the number of female directors at listed companies has not had the expected spillover

effect of increasing the number of female CEOs (Bertrand et al., 2019; Elsaid & Ursel, 2011; Zajac & Westphal, 1996). All participants voiced a desire to see more female CEOs leading listed companies. They were disappointed when they found that in the discussions among board members, female candidates were devalued and not trusted to take on CEO positions. Their view is clear: Boards and senior leaders must decide to achieve gender balance. To this end, all stages of the recruitment process must be professional, ensuring quality and integrity, and must not be perfunctory, with the outcome already decided.

7. Conclusion

This study is based on findings from interviews with 22 female directors; we do not intend to generalize or claim that other board members experience things in the same way. What is presented here is the essence of the experiences of these women who collectively sit on the boards of every company listed on the Icelandic stock exchange. We have thus gained valuable insight into how they have experienced the CEO hiring practices of all listed companies, but no generalizations can be made, nor can a claim be made that other board members experience things in the same way as these board members. In our future research, we will interview other board members and shareholders to obtain their views.

Our findings contribute to the understanding of what it is like to be a woman on a board of directors participating in the CEO hiring process. Our findings also indicate that they desire to promote more women but feel their efforts are thwarted by the men on the boards. We present their vision for increased diversity and inclusion in CEO recruitment. They want boards to take responsibility for making systemic changes, to decide to eliminate gender bias and to implement gender quotas for executive committees. They want boards to advocate for inclusive succession planning programs to diversify the talent pool in their organizations. Most importantly, they want boards to develop the courage to select the most competent individual to lead the company irrespective of gender, ethnicity or origin and they are aware that the gender quota legislation has had no spillover effect on hiring of female CEOs.

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Inequalities for Women in Science, Technology and Innovation

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Abstract: There is still a tangible inequality between men and women in many areas of daily life around the world, including professional fields and educational careers. The objective of this study was to analyze the different inequalities in Europe and third countries in America, Asia and Africa regarding the involvement of women and men in education and employment. This study focused on the areas related to Science, Technology and Innovation (STI), three of the most relevant and important areas for the future development of society. The study presented in this paper started with the initial question: "Are there inequalities between women and men in the fields of Science, Technology and Innovation?" This question was followed by an in-depth examination of datasets and studies on women and men who are learning, working, or hold leadership positions in the STI fields. Data and numbers were collected on the workforce, students in higher education, and professional fields. These served to determine and verify the state of the art for women in the fields of STI. Based on the results, presented in the paper, statements can be made regarding inequalities for women in the field of STI. Several efforts are being made in order to promote gender equality in STI. In fact, this has become a strategic issue in Europe, since the Council of the European Union, in its conclusions, invited the Commission and the Member States to consider including the gender perspective within the policy dialogues in bilateral and multilateral agreements with third countries in the STI area. Moreover, several initiatives have been implemented in recent years as part of the strategy for the European Research Area to promote gender equality in research and innovation. One of these initiatives is the Gender STI project, a European research-funded project that aims to integrate gender perspectives in STI into dialogues between Europe and third countries. As part of the initial activities of the project, this study aims to build a deep understanding on the current status of gender equality in STI in these regions and how the gender perspective is currently addressed in policy dialogues.

Keywords: gender, women in STI, higher education, profession, STI

1. Introduction

Nowadays, there still exist inequalities for women in many areas including the professional sector. This manuscript analyses the inequalities found in the fields of Science, Technology and Innovation (STI), through the study of relevant data sources from six European countries and ten countries from America, Africa and Asia. The paper confirms that although the worldwide population is overall distributed 50/50 between men and women, employment rates, study of careers related to STI and participation in decision making in STI is lower in women than men, with differences among the studied countries.

2. Related work

Women are still underrepresented in the STI fields. According to a report entitled “The Researcher Journey Through a Gender Lens” (De Kleijn et al., 2020), clear disparities still exist although the number of women participating in research has significantly increased in recent years. The STI fields continue to be male dominated working areas. Less than 30 percent of researchers worldwide are female, and only 30 percent of female

students choose to enter a field related to science, technology, engineering, or mathematics (STEM) (United Nations, 2021).

At the graduate level, women are also underrepresented; a recent study showed that only 29, 19, 23 and 34 percent of women received a PhD in mathematics and statistics, computer and information sciences, engineering and physical and technological sciences, respectively (Wang and Degol, 2017). Furthermore, many women do not choose to pursue an education in a STEM field, meaning that fewer women than men graduate from university specialising in a STEM field. In fact, two recent studies indicated that 34 percent of males as compared to 12 percent of female graduated with a degree in a STEM field (Card and Payne, 2021; Poggesi et al., 2020). This gap is broadened by gender stereotypes and cultural factors that affect gender equality, and deepened by the fact that role models and female mentors are generally lacking in this field. This gap, in turn, affects the proportion of women employed in STI fields: Fewer women than men hold positions of responsibility in STEM fields. Nevertheless, increasing the visibility of these female entrepreneurs could inspire and empower young women who would like to start or pursue a career in the STEM fields. A positive correlation has been observed between having female role models and the level of involvement of young girls in STEM. Studies show that the proportion of women graduates in STEM increases when the proportion of females on the faculty increases (Bottia et al., 2015).

In the field of innovation, the underrepresentation of women plays a significant role. Fewer women in STEM careers translates – among other things – to restrictions in creativity, innovation and competitiveness in innovative businesses (Soler, Alvarado and Nisperuza, 2020). Clear disparities can also be observed in the area of inventor teams: These teams are composed of only male members in 47 percent of the cases and by one man alone in 33 percent of the cases (She Figures, 2019). These aspects impact how solutions to current global challenges are found, such as climate change, diseases and access to water. Many significant innovations will occur in the future, and people with the right skills are required to create these innovations. If women are underrepresented in STEM fields, many talented individuals will fail to participate in solving these challenges and, consequently, many solutions may never be considered (Corbett and Hill, 2015).

Furthermore, women are clearly underrepresented in professional positions and especially in leading positions in research (Comisión Europea, 2008). Where decision-making occurs and where further steps are taken, women still do not have enough opportunities to contribute. In addition, women in leadership positions also take on the role of reference models and contribute to the visibility of women in the STI fields.

Several reasons for promoting women in the STI fields exist. One of these reasons is that we need more scientists; we simply cannot afford not to use half of the population in this field as a workforce (Polcuch, Brooks and Bello, 2018). For this reason, it is essential to foster the engagement of women in STEM, to create a more gender-balanced future generation of STI professionals and to position this issue as a key part of current political agendas (Smith, 2011).

3. Methodology

First, data were collected on gender and STI fields, namely these data needed to refer to both gender and STI. The STI fields chosen were the science, technology, engineering and mathematics (STEM) areas to ensure the comparability of the data. These areas included the natural sciences, mathematics and statistics, information and communication technologies, and engineering, manufacturing and construction. The data on human resources in STI needed to refer to scientists and engineers studying in scientific or technological areas or individuals employed by science and technology companies.

To assess the differences between women and men in STI fields, data were gathered from data sources in the third countries of Argentina, Brazil, Canada, Chile, China, India, Mexico, South Africa, South Korea and the USA, as well as six EU countries (i.e. Austria, Italy, Finland, France, Portugal, Spain). These formed the core reference group in this study. These differences indicated the distribution of women and men:

- in fields of employment
- in education (university) in STI fields,
- among PhD graduates in STI fields,
- in human resources in STI and

- in leading positions (regardless of the professional field).

Second, data were collected from Eurostat regarding the 2019 populations of men and women registered in each country (Eurostat, 2020). Data for 2020 for the non-EU countries were collected from the World Bank Open Data Catalog. Data for the numbers of men and women employed in EU countries in 2019 were also extracted from Eurostat (Eurostat, 2020), and 2020 data for the numbers of men and women employed in the non-EU countries were obtained from the World Bank Open Data Catalog. The analysis of the latter data enabled us to identify differences in employment based on the population. This result supported the evaluation of the subsequently collected data.

To collect data on the participation of men and women in STI fields, we considered these fields as similar to STEM (science, technology, engineering and mathematics) fields.

The data collected for the STI fields was divided into three categories based on the gender division:

- 1. education (university) (OECD Stat, 2021)
- 2. PhD graduates (European Institute for Gender Equality, 2021a) and
- 3. human resources (European Institute for Gender Equality, 2021b) and (European Institute for Gender Equality, 2021c).

In addition, data were obtained on women and men in leading positions. Here, insufficient gender data were available in the STI fields (STEM related), so these data were generally determined regardless of the professional field.

The data were collected by conducting extensive research via various websites that hosted databases. Among others, the websites of the European Institute for Gender Equality (https://eige.europa.eu), OECD.Stat, (OECD Stat, 2020), European Commission (2020), World Bank Open Data Catalog (The World Bank Data, 2021) and UIS.Stat were used.

To obtain a worldwide overview, data were provided by the Gender STI project to complement comparable data from the aforementioned sources. The Gender STI project places a focus on gender aspects in bilateral and multilateral agreements made in the STI fields. Consequently, organisations in Argentina, Brazil, Canada, Chile, China, India, Mexico, South Africa, South Korea and the USA gathered equivalent country data. This coverage made it possible to obtain a nearly worldwide overview of the status of inequalities between women and men in STI.

4. Results

These analyses were based on data collected in the EU countries of Spain, Finland, Portugal, Austria, France and Italy, as well as the third countries of Argentina, Brazil, Canada, Chile, China, India, Mexico, South Africa, South Korea and the USA. First, the number of women and men living in the respective countries in 2019 was determined. We asked the key question: *What is the distribution of women and men living in the respective country?*

In 2019, 51 percent of the population of the EU 28 states consisted of women. In Spain, Finland, and Austria, just under 51 percent of the population consisted of women and, in Italy, this proportion was slightly more than 51 percent. In France, 51.7 percent of the inhabitants were female, and in Portugal, 52.8 percent (Eurostat Data Browser, 2021a).

In third countries, the populations of Argentina and Mexico consisted of slightly more than 51 percent women; the populations of Chile, South Africa, Canada, the USA and Brazil consisted of more than 50 percent women; South Korea's population consisted of 49.9 percent women; China's population consisted of 48.7 percent women; and India's population consisted of 48 percent women (The World Bank Data, 2021).

We then asked a second question of interest: *Are more women or more men employed in STI fields?* To answer this question, we first determined the employment status of women and men in the countries of interest; then, we examined their employment rates in the STI fields. Despite the fact that men and women were nearly equally

represented in the populations of the countries in which data were collected, more men than women were employed in all countries. Table 1 shows the percentage of employed women and men in these countries.

Table 1: Gender bias in employment rate (Eurostat Data Browser, 2021b)

Countries	Employment 2019 women	Employment 2019 men
EU 28	68.2%	79.6%
Spain	62.1%	74.0%
Finland	75.8%	78.5%
Portugal	72.7%	79.9%
Austria	72.4%	81.2%
France	68.1%	75.2%
Italy	53.8%	73.4%
Argentina	59.0%	80.0%
Chile	59.0%	79.0%
South Africa	54.0%	66.0%
Canada	75.0%	82.0%
USA	67.0%	78.0%
Mexico	48.0%	82.0%
Brazil	61.0%	80.0%
India	22.0%	80.0%
South Korea	51.0%	71.0%
China	68.0%	82.0%

In Table 1, the Eurostat Data Browser was used to obtain data for the European countries. Data for the year 2019 were extracted, and the percentage of employed women and men aged 20–64 was determined in relation to the total population. Data for 2019 was extracted from the World Bank Data for the ten third countries, and the percentage of employed women and men aged 15–64 was determined in relation to the total population. In the EU, women are employed 11.4 percent less frequently than men on average. However, we observed strong differences among the individual countries, illustrated by the comparison of the six European countries. Finland performs the best with a difference of only 2.7 percent between the male and female employed populations, while 19.4 percent fewer women are employed in Italy. However, these results are independent of the professional field. The population average in the EU is distributed almost 50/50, whereby the percentage of women in the population tends to be higher than the percentage of men. Therefore, the results clearly show that fewer women than men are actually employed, indicating the presence of inequality. Among the third countries, the percentages of employed women and men in Canada, the USA and South Africa are closer to the European average, while the other seven show clearly greater differences in employment status. India represents an outlier, as 58 percentage fewer women were employed in 2019 than men; this means that only 22 percent of the women were employed, while 80 percent of the men were employed. The results for Mexico and China also indicate starkly striking inequalities. Brazil, Chile, Argentina and South Korea show a difference of about 20 percent. These findings illustrate the clear differences among the various countries, but one fact remains the same in all countries: on average, fewer women than men are employed.

In order to gain an understanding of the gender balance in STI, data related to gender and STI fields were collected and analysed to assess the current status. This research was carried out in three stages. First, we determined how many women and men were enrolled at tertiary education institutions in STI fields. Second, we assessed the proportions of male and female PhD graduates in STI fields. Third, we calculated the percentage of women in STI fields on the basis of human resources data. Two specific areas were considered here:

- 1. Human resources in science and technology fields and
- 2. Human resources in the form of scientists and engineers.

Table 2: Gender bias in STI fields for EU (OECD.Stat, 2021) and (European Institute for Gender Equality, 2021a).

Countries	in Education 2018 women	in Education 2018 men	with PhD 2018 women	with PhD 2018 men
EU 28	-	-	0.01%	0.01%
Spain	11.47%	36.30%	0.06%	0.07%
Finland	12.88%	50.89%	0.04%	0.07%
Portugal	17.91%	41.82%	0.04%	0.04%

Countries	in Education 2018 women	in Education 2018 men	with PhD 2018 women	with PhD 2018 men
Austria	9.55%	28.08%	0.03%	0.06%
France	14.30%	39.73%	0.03%	0.06%
Italy	16.38%	35.17%	0.02%	0.03%

The values in the columns labelled "in Education 2018 women" and "in Education 2018 men" in Table 2 reflect the percentages of women and men enrolled at tertiary education institutions who chose to study in an STI field in the year 2018. Figure 1 shows the distribution of women and men in tertiary education in the European countries based on data presented in Table 2.

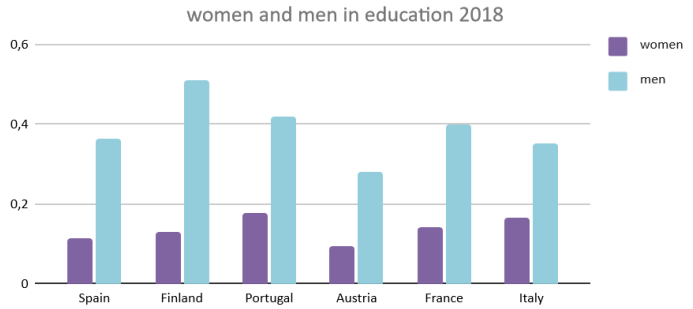

Figure 1: Distribution of women and men in tertiary education in EU countries.

Data shown in the columns labelled "with PhD 2018 women" and "with PhD 2018 men" in Table 2 represent data on graduates aged 25–34 who graduated with doctoral degrees in fields of science, mathematics, computing, engineering, manufacturing and construction in 2018. Figure 2 shows the distribution of women and men who graduated with a PhD in 2018, based on data presented in Table 2.

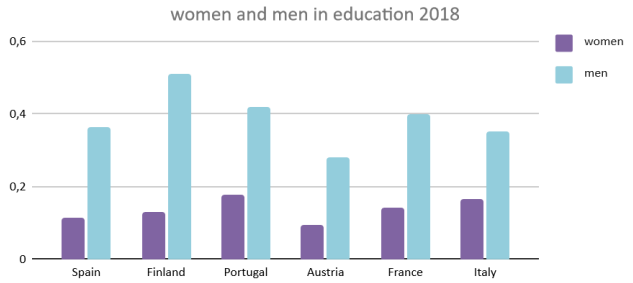

Figure 2: Distribution of women and men with a PHD in 2018 in EU countries.

Table 3 reflects the percentages of women aged 15 to 74 who were employed in 2019 in the fields of science and technology or who were working as scientists and engineers.

Table 3: Gender bias in STI fields regarding human resources in the EU
(European Institute for Gender Equality, 2021c)

Countries	Human Resources 2019 (% women)	
	Science and Technology	Scientists and Engineers
EU 28	51.99%	41.65%
Spain	50.68%	50.39%
Finland	52.93%	70.6%
Portugal	53.3%	48.22%
Austria	52.67%	46.65%
France	31.39%	41.86%
Italy	47.19%	34.51%

Of all those who chose to pursue tertiary education, males most commonly decided to enter an STI field in Finland (i.e. 50.89 percent), whereas only 12.88 percent of women in Finland chose to enter an STI field. In order for an equal number of men and women in STI tertiary education in Finland in 2019, 38.01 percent more women would have needed to enter an STI field. This inequality in Finland is also reflected by the numbers of male and female PhD graduates. Therefore, it is all the more interesting that Finland is the best performer in the human

resources category. In terms of overall human resources, 52.9 percent of the employees in science and technology in 2019 were women, while 70.6 percent of women were working as scientists or engineers.

However, the results for Finland do not represent the European standard, as on average only 41.65 percent of people working as scientists and engineers in 2019 were female. In many countries, the differences between women and men in the STI fields were even higher. Results for Spain also lie well above the EU average for human resources at 50.39 percent, followed by those for Portugal, Austria and France. In these countries, the percentages of women working in the STI field were just above the EU average. The results from some countries, however, underline the inequality between female and male scientists and engineers. One example is Italy, where only 34.51 percent of the scientists and engineers were female in 2019. Regardless of their future career field, clear differences were observed between women and men in terms of their choice of education. This study identified a gender gap for education in Finland (38.01 percent fewer women in STI education), France (25.43 percent fewer women in STI education), Spain (24.83 percent fewer women in STI education), Portugal (23.91 percent fewer women in STI education), Italy (18.79 percent fewer women in STI education) and Austria (18.53 percent fewer women in STI education). Finland has the largest gap, with significantly fewer women than men opting to pursue technical tertiary education. The gap is smallest in Austria, although the number of people interested in pursuing education in the STI fields is small overall. These results are shown in Table 2. In assess the gender gap regarding education and human resources in third countries, an analysis of worldwide data was conducted. The availability of these data was sometimes highly limited, which is in itself an indication of the need to pay more attention to gender aspects in STI. Table 4 shows the data used for the evaluation of the gender gap in education and human resources in STI fields.

Table 4: Gender bias in STI fields, 10 countries (OECD.Stat, 2021), (UNESCO, 2021a) and (UNESCO, 2021b)

Countries	in Education 2018 women	in Education 2018 men	with PhD 2018 or 2017 women	with PhD 2018 or 2017 men	Human Resources Researcher (% women)
Argentina	33%*	67%*	0.03%	0.03%	54.10%
Chile	6.88%	39.47%	0.01%	0.02%	34.40%
South Africa	-	-	0.03%	0.04%	44.90%
Canada	12.14%	36.77%	-	-	-
USA	11.33%	29.87%	-	-	-
Mexico	14.97%	38.66%	-	-	33.00%**
Brazil	10.69%	29.97%	-	-	-
India	27.80%	38.02%	-	-	-
South Korea	14.31%	45.06%	0.07%	0.1%	20.40%
China	-	-	-	-	-
*from BID-Argentina					
**data from 2013					

Due to the limited accessibility of some data, only part of the table is filled. The columns labelled “in Education 2018 women” and “in Education 2018 men” display data obtained from the same source as the EU data, making the values comparable with each other. These data indicate the percentages of women and men, respectively, who chose to pursue higher education in an STI field. The values are very similar to those for the countries shown in Table 2. Figure 3 shows the different distribution of women and men in tertiary education in 2018 in Chile, Canada, the USA, Mexico, Brazil, India and South Korea, based on data presented in Table 4.

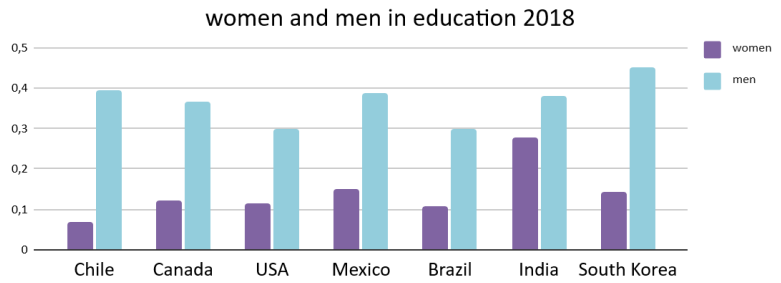

Figure 3: Distribution of women and men in tertiary education in 2018.

The proportion of men interested in pursuing higher education in an STI field is similar to the proportion seen in the six EU countries. Differences can be seen among the proportions of women, whereby Chile has an even

lower proportion of women (i.e. 6.88 percent) and India has a much higher proportion of women (27.8 percent) who opted to pursue higher education in an STI field. Nonetheless, these data indicate that the highest female percentage (i.e. 27.8 percent in India, Table 4) is smaller than the lowest male percentage (i.e. 28.98 percent in Austria, Table 2). This gap clearly shows the inequality between women and men pursuing education in STI fields. Far fewer women than men received education that would professionally qualify them to work in an STI field in 2018. The columns labelled "with PhD 2018 or 2017 women" and "with PhD 2018 or 2017 men" show the proportion of women and men who received graduate degrees comparable to a PhD (UNESCO, 2021a). Again, fewer women than men always received advanced degrees in STI fields. The values for Argentina, Chile, South Africa and South Korea are above the EU average. South Korea stands out, because as many as 0.13 percent of men received a PhD in an STI field. The proportion of women is also particularly high here, although fewer women were initially enrolled in tertiary education than men. Apparently, women who pursue this education are also more likely to graduate with an advanced degree in this country.

The human resources column reflects the proportion of women in STI fields (UNESCO, 2021b). The data were collected in 2017 and 2018 and, for Mexico, in 2013. Argentina has a very high share of women in research (54.1 percent), while the data for South Africa are similar to the European average, insofar as the data can be compared. The data for Chile, Mexico and especially South Korea clearly show a gap between women and men in STI research fields. However, due to a lack of data, no overall worldwide statement can be made; therefore, additional data were obtained from the United Nations. The results of the analysis of these UN data indicate that the proportion of female researchers is less than 30 percent worldwide (United Nations, 2021).

Third, we determined the proportion of women in leadership positions. To do so, it was necessary to neglect the restriction of STI fields due to the lack of data. Figure 4 presents the distribution of women and men in leadership positions worldwide. (Eurostat, 2021) and (UN WOMEN 2021)

In the EU 28 countries, 28.8 percent of leadership positions were held by women in 2019. France stands out particularly in the business field, with 45.2 percent female leaders.

The USA performs great with 40.7 percent of women in leadership positions; this percentage does not surpass France's proportion of women in leadership positions, but is clearly higher than the EU average. Argentina, Chile and South Africa have percentages of women in leadership positions which are similar to the EU average of 28.8 percent, and South Korea and India score very poorly at 14.5 percent and 13.7 percent, respectively.

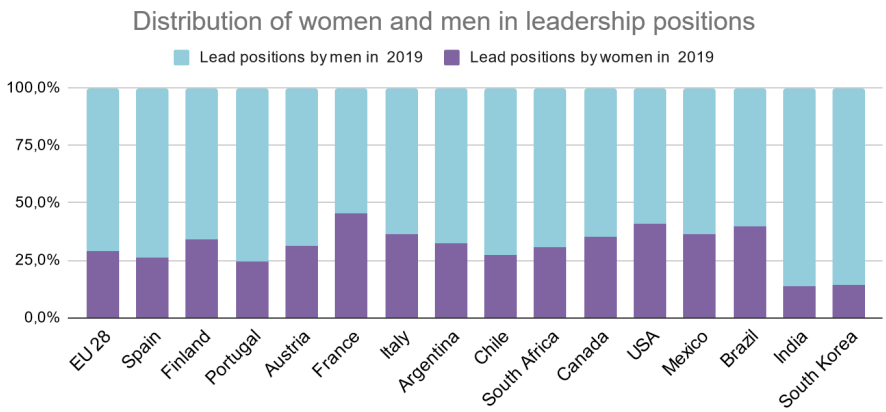

Figure 4: Distribution of women and men in leadership positions worldwide

5. Conclusion

The research study shows evident disparities between women and men studying and working in science, technology, and innovation (STI). Regardless of the scientific field, female scientists only represent 41.65 percent of the EU average. Less than 30 percent of researchers worldwide are female. Only 30 percent of female students chose to study an STI field. In addition, the findings reveal that women are poorly represented in leadership positions, regardless of the field of STI. A worldwide overview for women STI fields was carried out by collecting data from EU countries of Finland, France, Italy, Spain, Portugal, and Austria, as well as non-EU countries of Argentina, Brazil, Chile, China, Canada, India, Mexico, South Africa, South Korea, and the USA. The wide range

throughout the different countries of this current research study advances gender research to reduce gender inequalities.

Consequently, the findings provide a foundation for meaningful systematic change in gender equality. The results support international governmental initiatives as a basis for (new) monitoring purposes. National and international governmental monitoring and documentation could counteract the limitation of data of non-binary genders or women in leadership in STI fields. The differences among the countries for women in leadership positions show the potential in future studies by comparing different countries, which could detect the source of the gender disparities across various nations. Researching the drivers of gender inequality in the STI field in different countries might reveal cultural norms, systemic policies, or social structures that may prevent the advancement of women in STI fields.

Future initiatives and projects like Gender STI address the gender gap. These projects aim to address policy dialogues in the European research area to counteract gender inequalities. Further research concerning the mapping of gender equality in bilateral and multilateral agreements will help verify the state of the art of gender equality in STI. Building a community of practice and addressing the issues of gender inequalities in a political context helps foster gender equality in STI.

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The Functioning of Gender, With Special Reference to the Global South

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Abstract: This paper proposes theorising gender through complementary sets of behavioural prescriptions or norms rather than by a focus on women (and men). It posits the idea that gender is integral to a disciplinary regime aimed at producing social order, with masculinity at its centre. What appear as advantages to men simultaneously pressure them into conforming to their cultural and socio-economic group's notions of masculinity including exerting control over wives and offspring. Four complementary foundational norms for both sexes are identified. They evolved during the nineteenth-century in industrialised Europe and were spread to the global south first through Christianisation and colonialism and later through gender and development programmes and mass/social media. These norms are first economic support for sustaining material life versus social reproduction and caring; secondly, male disciplining of (submissive) wives and children; thirdly heterosexuality, marriage and the biological production of children; and fourthly men's protection of vulnerable women and their ascriptive (ethnic/religious) group for the context, as also the state. These do not determine behaviour but oblige everyone to consider them in negotiating their own conduct, with the most insecure interpreting them most narrowly. The ideology of masculinism supports the regime at the macro level, while also influencing individual behaviour at grassroots. Drawing on cases from my work in Latin America and Sub-Saharan Africa, I show how this functions in practice in relation to how men treat each other and how it impinges on familial gender relations, with particular emphasis on Sub-Saharan Africa, and especially Kaduna, Nigeria. I also discuss how supporting men to delink their behaviour from the norms of masculinity (thus defying masculinism) can make a positive contribution to family life and I posit the importance of further research on the effects of the norms for both sexes to improve our understanding of the functioning of gender.

Keywords: gender norms, masculinism, masculinity, coloniality of gender, Sub-Saharan Africa

1. Introduction

The term gender serves as a theoretical lens to differentiate biological sex from socially-constructed behaviour (Oakley, 1972: 16). As the chief victims of gender power relations women have become the major focus of efforts to improve their situation while men have been viewed as the privileged sex, who have arranged the world for their benefit at women's expense. This suggests that gender is a universal and that men and women form monolithic blocks, ignoring the effects of socio-cultural and politico-economic positionality and so hampering our understanding of the intersecting disadvantages of many men.

In this paper my focus is not women's issues but rather the functioning of what I call the gender regime, which I view as primarily aimed at preserving social order – that is, as serving as the foundation of Foucauldian disciplinarity (Foucault 1991). The point is to reveal a deeper understanding that will also provide an approach to transforming relationships in a way that focusing on women alone cannot.

My premise is that the focal point of the gender regime is masculinity — that men's apparent advantages dupe us into assuming this is the reality and thus into viewing their negative behaviour as easy to change. The UN's He For She movement,[1] for instance, aspires to persuade men to treat women better, to help them in the home and eschew violence towards them. However, many men are too insecure to withstand pressures to uphold normative expectations; to compensate they may be strict and even violent at home. They may mock others deemed too egalitarian, pushing them towards more deleterious behaviour. My work as a gender trainer showed this to be common. For instance, a project with youths in the Ecuadorian Andes revealed how dominant males capable of attracting multiple sex partners tried relentlessly to pressure their peers into doing the same (Harris, 2006).

In this paper I suggest that the pressures men feel to comply with local norms of masculinity represent major obstacles to gender transformation. They are products of that political ideology termed masculinism which sustains structural inequalities globally (Section 4) (Runyan and Peterson, 2014). This does not exculpate individual men for pejorative behaviour but rather implies that transforming gender relations requires unravelling the regime itself, while also deconstructing the signifiers man and woman as containers of normative

[1] Heforshe.org

elements usually subconsciously understood but rarely articulated. It also means focusing on the complementary masculine/feminine norms that form the bedrock of most societies (Section 3).

To clarify their genealogy I start with a brief history of western gender followed by its imposition on a culturally distinct global south. Section 3 unpacks the black box of gender through normative elements distilled over decades of grass-roots education and research in Europe, the Americas, Asia, and especially Africa. Section 4 links these to masculinism, showing the harmful character of this ideology. Section 5 utilises data collected during grass-roots education projects in Ecuador, northern Uganda and Kaduna, Nigeria, through action-research based participant observation. This reveals how men's struggles to negotiate the norms push them into often-harmful treatment of women, harming the men themselves and facilitating violence. It also shows that delinking from the norms can reverse this.

2. Gender – its history and geography

The uninterrogated acceptance of male superiority obscures distinctions among men from different socio-cultural groupings rarely understood by the white middle-class scholars who overshadow the field and whose work is therefore less relevant to other cultures. It also derives from a lack of understanding of the history as well as the geo-cultural and geopolitical power relations that have produced the current global environment, including western domination of political economy and gender ideology.

2.1 Its history

My narrative begins after 1700 in Europe when according to Thomas Laqueur (1990) the previous fluid understanding of the distinctions between males and females shifted to the notion that men and women comprised two biologically distinct and fixed entities. With the womb seen as qualitatively distinct from male genitalia, women came to be viewed as largely ruled by their uteruses, their lives revolving around pregnancy and childbirth.

The first major consequence was that the notion of companionate marriage began to supersede that for economic benefit and the continuation of the family, leading to the conceptualisation of romantic love as its ideal basis. Equally important was the introduction of heteronormativity, where, as we learn from Randolph Trumbach (1998), the earlier acceptance of adult men taking the active role with passive youths, as long as this was combined with a socially-approved cross-sex marriage, ceded to the concept that all same-sex erotic desire deprived men of appropriate masculinity. Meanwhile women's homoerotic behaviour was less visible and so generally ignored.

The industrial revolution largely shifted 'productive' labour from the family unit to an external workplace, pushing women into the home and confining them to 'reproductive' activities, legitimised by the new ideas concerning female biology. This occurred just when under industrialising capitalism money was becoming increasingly important in power relations as also a crucial element for sustaining material life since fewer necessities were being produced in the household. At this time too men were first pressured into assuming the entire burden of their families' economic support by engaging in waged labour, for which they were rewarded with enhanced control over wives and offspring. However, those men unable to manage this, for whom their wives' labour and sometimes that of their children too were critical for family survival, became especially vulnerable, often leading to domestic violence (Davidoff and Hall, 2002). Thus, between 1700 and 1900, with the shift to modernity in Europe, gender-based inequalities increased significantly.

By 1900 the set of norms we now associate with the terms man and woman had been established in their most rigid forms. While over the ensuing century the associated practices were generally relaxed the underlying norms have changed little (Section 3). Meanwhile, this essentially middle-class white European ideology was carried to the rest of the world along with Christianisation and colonialism (Harris, 2017). Neocolonialism supported the continuation of this process and, especially in the form of gender and development programmes, continues to do so, making gender integral to the ongoing project of coloniality (Lugones, 2010).

2.2 Its geography

When missionaries and colonial agents arrived in Sub-Saharan Africa, they found qualitatively distinct and far less rigid gender prescriptions than at home, with biological sex less salient for power relations than age and

seniority (Oyěwùmí, 1997). Furthermore, material needs were largely met through domestic production with women playing a major role; since Africa is gerontocratically structured, older women wielded power over younger men, including adult sons (Harris, 2012, 2017; Silberschmidt, 1999).

Missionaries attacked local ideas of personhood from multiple perspectives, starting with dress and marriage. Female converts were expected to submit to their husbands as Christ's representatives and could not easily divorce them, making it hard for them to escape abusive relationships (Harris, 2017). Meanwhile, colonial officials offered employment to men alone (Vincent, 1982) and refused to acknowledge women's political designations, for instance among the Yoruba where female leaders held titles paralleling those of men (Oyěwùmí, 1997). All this changed grass-roots gender relations, later supporting the structuring of the independent states around male advantage, including political representation (Anunobi, 2002).

Asian male/female relations were also influenced by western ideology, even in countries such as Thailand and China which were never formally colonised. However, in most of these cultures sex was crucial to power relations albeit in combination with gerontocracy. In India colonialism increased inequalities for younger women, the non-heteronormative or hijra, and scheduled castes/tribes (Oldenburg, 2002). However, the power of mothers-in-law continued, preventing youths of both sexes from determining their own futures, including choice of profession and marital partner, since in most families major decisions rest with the elders (Harris, 2019).

Overall, a major impact of western influence was to raise the status of men compared with women, who were subjected to considerably more limited behavioural prescriptions than previously, while simultaneously making men vulnerable through the norm of breadwinning. Moreover, the lack of respect to women shown by white men encouraged southern men to copy this (Oyěwùmí, 1997).

Western gender identities were never fully adopted in the global south and despite influences from television and social media as also from gender and development projects that promote western norms to southern communities (Wendoh and Wallace, 2006), this has not changed. The result is that to understand such societies requires theory specifically focused on their own social organisation, including the mutual constitution of gerontocratic and gendered power relations (Harris 2012) although the foundational norms now play a major role in most societies.

3. The foundational norms of gender2

These norms enforce a rigidly binary structure aimed at disciplining populations into conforming to one of these two positions irrespective of self-identity. They demand distinct but complementary behaviour from each sex, the details differing among and within geopolitical cultures. Here I mainly focus on their functioning in Sub-Saharan Africa while also addressing implications for other parts of the world. The foundational elements comprise material support, social reproduction, family discipline, sexuality, marriage and children, the protection of the family and by extension other relevant entities, including the state.

While this is not deterministic, everyone must deal with these prescriptions, any leeway depending on capacity to negotiate social pressures and thereby manage one's self-presentation. However, nowhere have these norms been reproduced exactly, facilitating variations in gender performance even within Europe and the white-settler societies. Moreover, the fact that some form of these elements exists in all but the most isolated indigenous groupings should be understood as an effect of western hegemony rather than of the universalisation of gender. Of course, the above elements deal only with complementary male/female norms; there are many others that apply solely to one sex.

3.1 The first normative element

The first and pivotal element under the capitalist system is the male breadwinner, complemented by the female homemaker. This makes men solely responsible for their family's material needs, while women act as housewives and carers, a division of labour that in late nineteenth-century Europe became crucial for social respectability (Davidoff and Hall, 2002).

[2] The material in this section is largely based on Harris (2018).

This element accompanied missionaries and officials to the colonies, where capitalist-based waged labour was introduced for men. This was particularly clearcut in Sub-Saharan Africa, reinforced by the early church schools where academic subjects were the sole purview of boys, girls being mainly taught domestic skills (Labode, 1993). The result was to establish men as controllers of material resources even in rural settings where women were the main farmers.

Women's contributions allowed the colonisers to pay African men low wages (Silberschmidt, 1999), constructing them as inferior through the vicious circle represented by the establishment of the breadwinner norm along with the refusal to pay them sufficient to be able to comply with it. When following World War II Nigerian railway workers struck for equal pay with their white colleagues, the response was that they did not deserve this because they were not their families' sole providers (Lindsay, 2007). Their colonial overlords thus concealed their racism behind notions of appropriate gendered behaviour.

While today the male-breadwinner norm has become crucial to African, as also Asian, manhood, only a tiny fraction can ever achieve this (Harris, 2016, 2018). Even in the west, few families can meet their needs on one income alone, so this norm has been stretched in practice by the high levels of women in the labour force, while many men hide their failure as breadwinners by explaining away their wives' earnings as pin money (*e.g.* Vera-Sanso, 2000).

3.2 The second element

The second element concerns social control which the head of the family (conceptually a male, although women may assume this position in practice) should be capable of exerting over his female partner/s and, especially in gerontocratic societies, even his adult offspring. This element makes the man reliant on fulfilling the first one since it is hard to enforce this on authority alone (Harris 2012). Therefore, the notion of the breadwinner as a uniquely masculine attribute, with the housewife dependent on her husband for all her and her children's material needs, creates a hierarchy that positions the *pater familias* as a (hopefully benign) dictator to whom his wife and children are expected to show obedience and/or submission. It legitimises deploying domestic violence, if necessary, to keep control. This element thus places masculinity at the centre of social order.

3.3 The third element

This concerns marriage, biological reproduction, and with this sexual identity/practices.

3.3.1 Marriage and children

Here men must demonstrate their virility, women act as passive partners, with few if any pre-marital contacts. Both to sustain male control and, where relevant, to ensure that all progeny are the husband's biological offspring, female unfaithfulness is taken very seriously, emasculating men by turning them into cuckolds. Conversely, the ability to attract multiple partners enhances masculinity.

In Sub-Saharan Africa polygyny has long been an important status symbol for Christian as well as Muslim men, with marriage formalised through the payment of bridewealth. Neither was acceptable to the missionaries who tried unsuccessfully to stop the latter and made monogamy a condition of baptism. Moreover, although children are essential to marriage and lineage continuation, in this sub-continent, unlike most other societies, social largely trumps biological fatherhood (Dube, 1997; Harris, 2016, 2017; Silberschmidt, 1999).

Since virility cannot be directly observed, it is demonstrated by begetting children, while becoming pregnant shows women's compliance with family expectations (Mumtaz *et al,* 2013). Even in the west today a successful marriage is expected to produce offspring, putting pressure on the childless to invest large sums in IVF and/or surrogacy (Korb, 2012) and recent European-Union policies veer towards white, middle-class pronatalism (Repo, 2016).

In the absence of relevant government programmes, in the global south children are essential for old-age support (Harris, 2016, 2019; Mumtaz *et al,* 2013). Many Asian societies embrace patrilineality and patrilocality, so parents rely on sons for their future survival. In such settings too older women's power position largely depends on their capacity to control their adult sons and daughters-in-law, making son preference crucial for their economic maintenance and social status.

3.3.2 Sexuality

Commensurate with the post-1700 shift towards heteronormativity, in the west this aspect of the third norm remains dominant, unlike in most other societies. In Sub-Saharan Africa lineage-appropriate marriage is expected of all, contracted more for family than for the individuals concerned. The acceptance of both women's pre-marital sexual experiences and social fatherhood explains the relatively relaxed approach to wives' extra-marital affairs, at least in pre-Christian times. Moreover, the fact that most people's days are spent in same-sex company facilitates extra-marital homoerotic relations for both sexes (Kendall, 1998; Rao, 2020).

In Asia too, non-heteronormative relations have long co-existed with a formal cross-sex marriage (ICRW, 2002; Krishnan, 2014). Here, where biological fatherhood is crucial, female virginity at marriage expected, and young women's mobility highly constrained, pre-marital same-sex relations are far less risky than cross-sex ones. Despite the colonial legacies of anti-homosexual legislation in India and Sub-Saharan Africa, extra-marital homoerotic affairs continued unobtrusively behind the scenes. However, recent pressures from new religious sects towards companionate marriage, along with the transnational LGBT movements, have helped pressure people into opting for a particular sexual identity (Rao 2020).

3.4 The fourth element

The fourth element concerns the brave and strong male protector of the weak and vulnerable female and her children. At its most basic this relates to men's duty to prevent outsiders from harming their families (*e.g*. ICRW, 2002). However, it becomes crucial in times of violent conflict, when men are charged with protecting the state and/or their religious or ethnic group, and so can be condemned for failing to do so. This justifies imprisoning or even killing as traitors those who do not provide such support and legitimises men's military conscription (Dudink and Hagemann, 2014). While women may of course be violent themselves they are conceptualised as normatively inherently passive and peaceful and so are more likely to be chastised than praised for violent behaviour.

Pressures related to this element have significantly facilitated public violence, including war-making, since otherwise raising an army or even gaining pro-war consensus would be much harder (Dudink and Hagermann, 2014; Runyan and Peterson, 2014). The legitimising of men's use of violence implied by this element further enables domestic abuse.

4. Masculinism

The above norms also underpin the global political economy in the shape of the ideology that feminist international-relations theorists term masculinism (Runyan and Peterson, 2014). Here the norms are turned into political principles, privileging all associated with the superior masculine over that linked with femininity. The first element positions the economy above human and ecological welfare and caring, competition above collaboration both domestically and internationally (Runyan and Peterson, 2014). The second element allows elites and political leaders to present as all-knowing fathers to their populations, thereby limiting democratic participation, while the third element permits law-making around sexuality and reproduction and the fourth privileges militarism and thus war-making over negotiation. Moreover, masculinism is crucial to neoliberalism, supporting further accumulation by the super wealthy through legitimising callous entitlement and so facilitating their dispossession of the resources of the masses (Runyan and Peterson, 2014). Politically it has created the populist anti-establishment movements responsible for Brexit and the election of Trump as well as of the BJP party in India, by exploiting feelings of emasculation of working-class white men and Hindus respectively (Anand, 2007; Walker and Roberts, 2018).

Masculinism also sustains patriarchal institutions, both official ones, such as the UN and national agencies, and unofficial ones, including the family and religious establishments. Together, masculinism and patriarchy legitimise individual sexism. This helps explain how national laws that mandate gender equality and the calls from the UN to promote this have produced relatively little substantive change.

Finally, masculinism legitimises pressures on individual men to comply with the norms outlined above while neoliberalism currently prevents even many middle-class men from attaining stable employment commensurate with their social and educational status (Walker and Roberts, 2018). Meanwhile, individuals are still held

responsible for failure to achieve this, effectively emasculating them. This leaves men with minimal chances of a satisfactory outcome.

5. The functioning of the gender regime

Strongly supported by masculinism, the norms outlined in Section 3 form the basis for both the ideological and the practical functioning of the gender regime. Since they make men dependent on women's conformity, they are less one-sided than they might appear. In fact, women may hold considerable power in terms of their (usually tacit) agreement to present an image of submission despite privately being more dominant than their husbands. This is especially true in much of the global south where image is prized over authenticity and gendered practices differ greatly from public discourse. Meanwhile, the pressures on men to maintain their masculinity by complying with the above elements of the norms are responsible for much of the oppression of women and children, as well as of other men (Walker and Roberts, 2018).

Many husbands I knew in Kaduna, Nigeria, struggled to support their families as daily labourers. When this failed their wives would commonly blame them for not fulfilling their obligations, scolding them until in exasperation they would beat the women to demonstrate their capacity to uphold the second norm at least. The men saw the ability to earn money as heroic, so difficult was it to achieve. Nevertheless, rather than blaming the norms that prevented them from allowing their wives to work, some of the poorest bolstered their masculinity through polygyny and high fertility, showing conformity with the third element of the norms while further impoverishing their families (Harris, 2016, 2018).

As youths some had tried to salvage their masculinity by participating in the sectarian clashes of the early twenty-first century since by turning violence into an appropriate resource for men, the fourth norm legitimises its use domestically and at community level, thus exposing them to the risk of being killed. Much of this occurs because this norm allows them to avoid emasculation due to their incapacity to comply with the first three (Harris 2016).

Some indication of what might be achieved by tackling these issues through supporting men to deconstruct the norms they are pressured into living up to can be gleaned from my grass-roots education projects where getting those concerned to view their own situations through the lens of masculinity sometimes produced quite radical change. For instance, in the Ecuador project (Introduction), the male youths themselves identified alcohol consumption and multi-partner unsafe sex as problems. Role-playing showed us all how they pressured each other into engaging in these through threats of emasculation. Getting a formal agreement from all the village youths to stop this, thereby delinking these from masculinity, significantly changed their lives and greatly improved relations with their girlfriends as a later evaluation demonstrated (Harris 2006).

Similarly, in post-war northern Uganda men who had been insisting on their wives and older offspring obeying them unquestioningly, after long discussions among themselves realised that family-level decision-making could benefit everybody (Harris 2014). In Kaduna role-playing regarding how youths were pressured via masculinity into joining in sectarian riots revealed how vulnerable this could make them. Our participants found ways to resist this and voluntarily worked with their peers to help them do the same. In the 2011 post-election riots, these groups remained peaceful; they even tried to stop others in their neighbourhoods from engaging in the violence (Harris, 2018). Thus, doing away at least partially with the power of the norms, thereby also defying masculinism, can significantly improve the lives of both men and women.

6. Conclusion

Exploring the capacity of the norms to pressure men into problematic behaviour suggests the need to reconceptualise gender issues as a component of (Foucauldian) disciplinarity aimed at keeping everyone in their allotted places for the benefit of elites. This suggests that a focus on equality alone cannot be truly transformative.

The four normative elements outlined in Section 3 break open the black box of gender-power relations thus revealing how they give men the upper hand, while simultaneously pressuring them into compliance with the norms, on penalty of emasculation. Due to the first norm, despite high levels of female employment women are still not viewed as legitimate members of the workforce nor men as legitimate homemakers (Runyan and Peterson 2014). Although in certain social groups norms two and three are no longer so important, some

pressures towards these remain. Meanwhile, masculinism along with institutionalised patriarchy and individual sexism continue to flourish to the detriment of us all.

My projects have shown that removing the pressures of masculinity can produce major social improvements, although more research is needed to demonstrate the utility of this approach. For it to work would require dismantling the normative elements described in this paper, thus transforming the signifiers man and woman into a completely different understanding of the meaning of being human, one perhaps aligned with the more egalitarian cultures of the pre-contact world. This would simultaneously imply doing away with the gender regime itself, thus taking this conceptualisation out of the realm of theory into that of advocacy.

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Formation of Human Capital in the Digital era: Gender Specifics

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Abstract: Under the influence of the Fourth Industrial Revolution, the skills need of current and future employees are also changing. In an environment where people work with machines and digital technologies, it is essential to develop the organization's new skills and competencies in order to remain competitive. Terms such as eskills, digital skills, or technological skills are often used in the context of human capital formation, and become an important part of it for organizations in the digital technology environment. The European Commission, which evaluates the DESI index every year, includes a human capital dimension, where according to the digital skills ranking, many European countries do not even reach 50 points out of 100. From the perspective of companies, jobs require a certain type of technical and digital skills. Gender research points to a significant gap between men and women in the field of IT, as well as in the current level of skills. However, the theory lacks more insight into gender specifics in a generation that will only come to the labour market in the coming period. In our original research, we decided to examine a selected generation Z, young people who are in their final years of high school and are considering the future direction of their education and potential career. This generation, unlike the previous ones, is specific in that it has grown up in many new technologies and encountered them in recent years. The aim of the research was therefore to examine gender differences in generation Z in terms of the perception of different types of skills as an important part of the human capital formation for future. And further take a deeper look at their behaviour in terms of education and career decision-making impulses. The research was conducted on 755 students in Slovakia and Czech Republic and pointed to a significant difference in the perception of the importance of technological and ICT skills between men and women, as well as their external influence on decision-making. The results of the unique research provide basis for the possibilities of setting up education and development of young women in the topic of digital skills, through which it would be possible to reduce this significant gap between men and women in the researched area.

Keywords: human capital, digital skills, technology, gender gap, Generation Z, future work

1. Introduction

Human capital represents the value of human competencies, a combination of different skills, abilities, knowledge or talents of an individual (Martinidis et al. 2021). Human capital is an important part of the intellectual capital of the organization, which forms the cornerstone for building the organization's competitiveness, and which the organization is constantly trying to improve. In the era of digitization, human capital competences are taking on new dimensions, in the form of new jobs and thus new qualifications, the need for digital and technical skills, and a new form of education and expertise (Grigorescu et al. 2021). Some authors even call for a new framework of digital human capital that could represent a vision of digital inclusion and new approach to digital training (Bach et al. 2013).

Under the influence of the fourth industrial revolution, the topic of the new set of skills does not only concern industrial companies (for example in the context of robotics) but also the service sectors. All companies are gradually undergoing transformations and are exposed to great challenges. Industry 4.0 brings new technologies that will redefine many jobs (Németh et al. 2021) by creating new environment of human-machine cooperation. Further as previous industrial revolutions, the current will also lead to destruction of some jobs and creation of other, new ones (Kohnová, Salajová 2019). According to Jansen (2019) competitiveness of businesses in this new era will be highly dependent on technology employed, know-how of employees, individual competences and organizational processes. Thus we can observe, that one of the new strategic priorities of companies and nations is to fully leverage the opportunities that come with digitalization.

Within the Digital Agenda, the European Commission (2021) presented in 2021 a vision and ways to digitally transform Europe, which includes promoting ICT specialization, achieving a high level of digital skills in the population and achieving gender equality in digital skills. Although the topic of new and digital skills is already part of the debate, the gender gap is not narrowing significantly, and it is a problem that needs attention.

Gender research has shown that women are less interested in STEM careers (Wang, Degol 2017). Further, PwC report (2017) on UK respondents reports that only 3% of young women perceive the technical field as a first career choice. Overall, according to their results, it is significantly more difficult for UK employers to recruit

people with digital skills compared to the US or China for example. In terms of technological occupation or STEM, many women perceive a lack of female role models, at least when comparing to men. The importance of developing technological and digital skills among women and reducing the gender gap has several important meanings. On the one hand, in the current state women lose possible opportunities in a variety of careers and work positions, on the other hand, it is also a significant disadvantage for employers regarding diversity in teams, and the use of other diverse human capital that women poses. However, it is not just a matter of STEM career orientation, in the context of the forthcoming industrial revolution and digitization as the technological driver of this era, these digital skills are becoming a necessity for employees in many industries, not specifically technical. González-Pérez and Ramírez-Montoya (2022) in their recent study point to the lack of research in the field of ICT in education and building and strengthening ICT infrastructure for creation of skills for future. In line with the authors, we perceive the importance to get deeper understanding on new challenges regarding ICT and digitalization for future skills, focusing on the formation of human capital. To close the existing gap in literature we have analysed the issue of new and digital skills among young adults from Generation Z, that are in the process of gaining knowledge and skills for future jobs and careers.

2. Literature review

2.1 Future of skills

The topic of a changing environment in terms of the necessary knowledge and skills for the labour market has long been the subject of research. Gradual technological development was also observable in previous periods and gradually caused a changing system of work in various industries, as well as expanded the intensity of services and knowledge-intensive jobs (Barany and Siegel, 2017). The change in the required skills and knowledge of employees is influenced not only by the technological factor alone, but also by a combination of other influences such as population aging (observable in many advanced economies), increasing share of educated population (share of university and vocationally educated population), close links in supply chains and technological push, climate issues and sustainability or managerial trends and changes in work organization such as the introduction of agile approaches and self-managed teams. Either way, these are not individual skills that will be required in the future, but a combination of them. Many authors consider social skills very important in the 21st Century (Deming, 2015). In a study by Bakhshi et al. (2017) authors found that in addition to social skills, cognitive competencies and learning strategies as: System skills -Judgment and Decision-making, Systems Analysis and Systems Evaluation will be important for the US and UK market.

New skills needed for future work are often inflected in the literature as 21 century skills, which include communication, critical thinking, creativity, collaboration, problem-solving and technological competencies. (Schwab, 2016)

Further, according to Deloitte report, the future of work will require a fusion of four types of skills:

- Digital skills and technological skills
- Analytical skills, work with data
- Business management skills
- Creativity, and design skills

However, the digital skill itself represents a diverse set of competencies. According to EU DigComp 2.1 (framework for digital skills), these skills cover 5 areas, in which there are a total of 21 necessary competencies. These areas are digital information and data literacy; communication and collaboration; digital content creation; safety; and problem solving (Carretero et al. 2017).

While several of the aforementioned skills for the future has been acknowledged in the literature, there still exists a significant gap between genders, regarding mainly technology and digital skills. These disparities have a significant impact on opportunities and possibilities of future employment and development for lagging groups. (OECD, 2016, Martínez-Cantos, 2017, Helsper and Eynon, 2013). In this context, however, the authors distinguish between the actual level of skills and abilities, measured, for example, through work performance or testing and self-assessment. According to several studies, women tend to underestimate their self-esteeming skills compared to men, although their real skills may be at the same level (Van Deursen and Van Dijk, 2015). One of the larger studies on this topic was the Martínez-Cantos research (2017), where based on the Digital Agenda

Scoreboard 2012, the author analyzed data from the European Commission. The results of the research, according to other authors, showed the significance of differences between women and men, even in the group of younger and more educated people (Praseytyo et al. 2020). Presenting lower level of digital skills among the group of women compared to men.

2.2 Generation Z specifics

Generation Z represents a group of young people who were born after 1995 until approximately 2010, when the Alpha generation follows (Jha 2020). According to Ryder (1965), the specifics of a generation can be understood mainly in the context of historical events or the specifics of a given time. Generation Z grew up in technology, and the internet and social media are an essential part of their lives. According to Nagy and Kölcsey (2017), they differ from previous generations mainly in the way information is obtained and processed (often multitasking). This generation was often referred to as "digital natives", "facebook-generation", "Ebay-babies", "information curators" or "iGeneration" (Tari 2011, Mohr 2017). Perception of the specifics of individual generations has long been an important topic for employers as well as for the education system.

According to Mohr et al. (2017) Generation Z students often feel overwhelmed and therefore appreciate guidance, for example regarding competencies that are expected in their future careers. Seemiller and Grace (2016) also mention the important role of social media, especially Youtube in the process of acquiring knowledge and learning, beyond compulsory courses and subjects at school. Although we can generally assume that Generation Z is more digital literate than previous generations, their level of digital and technological skills is often dependent on other factors, such as the socio-economic level in which they find themselves, as well as the type and form of education in given institutions (Linne, 2014). The authors' opinions on the specifics of the Z generation tend to differ, especially in a critical view. Some authors highlight negative characteristics such as no sense of commitment, superficiality (Bencsik & Machova, 2016), anxiousness's, disappointment (Tari 2011) and others highlight their motivation to become a driver of change, desire to learn (Mohr 2017) being determined, open-minded, responsible (Seemiler, Grace 2016). Nevertheless, each new generation has always brought change to a society that has not been one-sided and has not worsened. On the contrary, it was possible to draw from the new generation and use its fresh potential.

Given the importance and timeliness of the topic of digital skills and skills for future work as well as the constantly persistent gender gap in the field of technical skills, we consider it very important to examine this issue and look for solutions to reduce this gap. We decided to examine targeted gender differences in the group of young people in Generation Z, who have already grown surrounded by new technologies, but at the same time are just entering the labour market.

3. Research methods

The main goal of the scientific research is to examine gender specifics in the context of human capital formation. We focused primarily on the area of expected skills required for their future careers. Subsequently, in the context of the specifics of the examined generation Z, we analysed in more depth their behaviour in terms of education resource decisions and their decision-making impulses. The research was conducted during 2020 on a sample of 755 high school students from the Czech and Slovak Republics. The respondents were potential applicants for further studies at the university. The research sample consisted of 258 Czech students and 497 Slovak students. In both groups, all regions of the country were covered to ensure the relevance of the research sample. At the same time, within the categorization, the research sample was divided into men and women. In the total sample, 55% were women and 45% were men.

Table 1: Research sample categorizations based on gender and country of origin

	ALL	percentage	SK	percentage	CZ	percentage
ALL	755	100%	497	66%	258	34%
female	416	55%	270	54%	146	57%
male	339	45%	227	46%	112	43%

Source: own processing

The research consisted of main research question*: Which of the following skills do you perceive as key to your future career in 5-10 years?* With possibilities as following: Professional qualifications (expertise); Technological

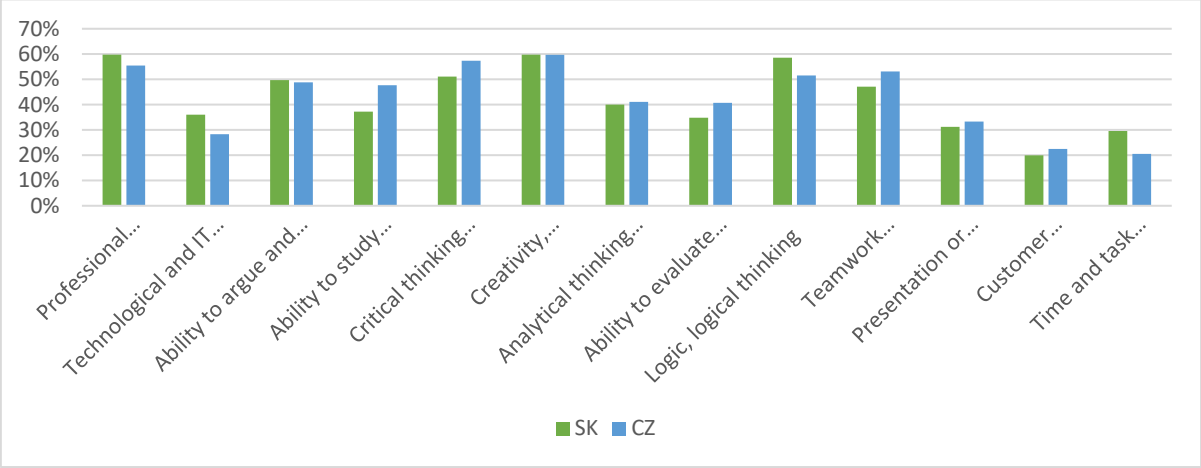
and IT skills, working with specific software; Ability to argue and persuade (assertiveness in communication); Ability to study independently (search and process information); Critical thinking (ability to form one's own opinion based on knowledge and experience); Creativity, innovation and creative thinking; Analytical thinking (capturing, structuring and understanding information); Ability to evaluate the situation (based on a synthesis of several factors); Logic, logical thinking; Teamwork (cooperation); Presentation or communication skills; Customer orientation, ability to understand the customer (empathy, attention, perception of context); Time and task management

Respondents could choose any number of skills. Regarding the decision-making impulses, students were asked: *Who influences you the most when choosing a university and / or future career?* With possible answers: Teachers; Parents; Siblings, cousins; Friends, acquaintances; Recommendations of influencers on social networks - Facebook / Instagram / YouTube; Recommendations in blogs and articles on the Internet and web portals.

For the purpose of the analysis the sample groups of CZ and SK students were tested for differences, using nonparametric Chi square test, testing for statistical significance at p value 0,05. Furthermore, the statistical differences were tested in gender analysis as well at p=0,05. Analysing the specifics of technological skills, we used linear regression analysis to identify the factors that influence the perception of future skills among examined groups.

4. Results

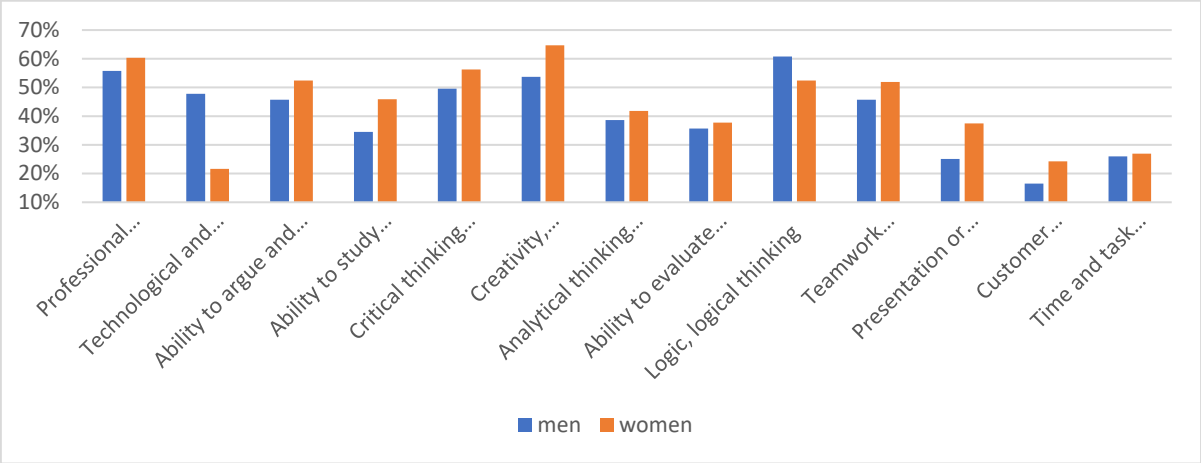
Group sample for examination consisted of total 755 students in secondary education. Sample groups of CZ and SK students were tested for differences based on their answer on the main research question focused on perceived important skills for future. Despite some percentual differences in selected skills, overall group difference was found to be not significant with Chi square statistic equal to 19.65 and p=0.07. Thus, for the further gender analysis, we followed with the analysis of the total research sample of 755 respondents.



Source: Own processing

Figure 1: Percentage comparison based on country of origin of respondents in perceived skills

In general assessment of perceived skills for future career of respondents we can observe that most respondents see creativity, innovation and creative thinking (60% of 755 respondents), professional qualification (58%) and logic, logical thinking (56%) as most important. On contrary, as least important they perceived Customer orientation, ability to understand the customer (empathy, attention, perception of context) (21%), time and task management (26%), presentation and communication skills (32%) followed by technological and IT skills (33%). These results point to several issues regarding the human capital competency shifts that are presented in the literature and are important topic in organizations as well. The results however further differ between genders. Presented in Fig. 2, we observe that technological and IT skills are much less perceived as important among women in generation Z (22%) compared to men in generation Z (48%). This difference was found to be statistically significant (Chi square statistic 57,45, p=0). Logic and logical thinking is perceived by 9% more among men than women in our sample. Women in the sample see teamwork as important by 8% more than men, creativity by 11%, ability to study independently by 11%more than men and presentation skills by 13% more than men. In other skills the differences were only slight in favour to women.



Source: Own processing

Figure 2: Percentage comparison based on country of gender in perceived skills

Subsequently, in the analysis, we looked at the possible influence of selected groups or sources of information on students' decisions about their future careers or further education. This research question was based on the assumption that high school students are more strongly influenced by external influences than graduating university students, and so we were interested in what, in addition to themselves, could influence their decision. In the overall group, the parents proved to be the most important for 62% of men and 70% of women. Subsequently friends, acquaintances with 45% among men and 49% among women. In other options, the impacts were perceived significantly less, teachers and siblings around 20% in both groups and the least was recommendations on social media and from influencers. Even with regard to the specifics of Generation Z, it is interesting that the impact of social media and blog recommendations remains relatively low compared to other factors.

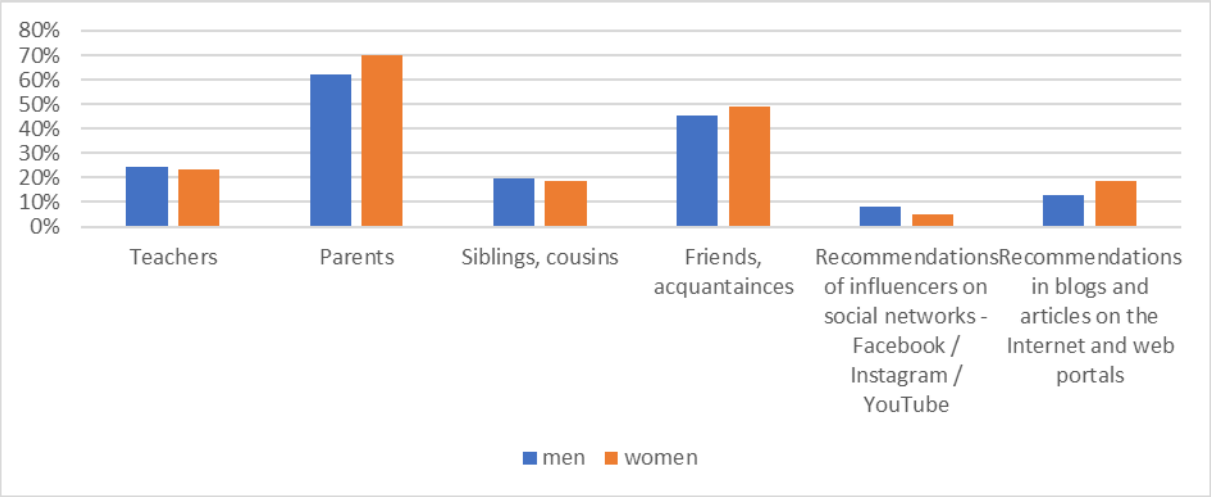


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Figure 3: Percentage comparison in sources of influence on student´s future career and education decisions based on gender

When comparing the differences between the examined groups of women and men, a significant statistical difference was found in the case of parents, where women are significantly more influenced by parents than men, with chi-square statistic 4.98, p-value is .026.

Table 2: Chi square test on parents influence on women and men

Category 1	Parents -influence	Parents- do not influence	***Row Totals***
Women	291 (276.60) [0.75]	125 (139.40) [1.49]	416
Men	211 (225.40) [0.92]	128 (113.60) [1.83]	339
Column Totals	502	253	

Source: Own processing

A significant statistical difference was also found in the case of Recommendations in blogs and articles on the Internet and web portals, where again women are significantly more affected by this source than men in the surveyed group with chi-square statistic 4.59, p-value is .032.

Differences between the surveyed groups point to different types of behaviour of young women and men in the Generation Z. Given that the most significant difference was in the perception of technological and ICT skills for future work, we tested the potential influence of these groups on work or education decisions focused on the use of these skills. Using linear regression analysis, where the dependent variable was the perception of technological and ICT skills and the independent variables were gender and various influences on future careers and education. Only gender showed a statistically significant effect.

Table 3: Regression analysis on technological and ICT skills

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.43	0.04	10.49	0.00**	0.35	0.51
Man/Woman	-0.27	0.03	-8.10	0.00**	-0.34	-0.21
Teachers	0.03	0.04	0.72	0.47	-0.05	0.11
Parents	0.05	0.04	1.27	0.20	-0.02	0.12
Siblings	-0.06	0.04	-1.41	0.16	-0.14	0.02
Friends	0.04	0.03	1.20	0.23	-0.03	0.11
Influencers	-0.06	0.07	-0.81	0.42	-0.19	0.08
Blogs, articles	0.06	0.05	1.26	0.21	-0.03	0.15

** Significance at p<0.01
Source: Own processing

On the contrary, parents proved to be a significant influence in case of dependent variable of professional qualifications. Within the independent variables, a significant positive impact was found for parents, but also for recommendations in blogs and articles. Recommendation and blogs are part of university communication and other educational opportunities as well as job opportunities. The results show that this communication includes professional requirements for the job position or the content and intentions of education.

Table 4: Regression analysis on professional qualification (expertise)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.43	0.04	9.55	0.00**	0.34	0.51
Man/Woman	0.03	0.04	0.89	0.38	-0.04	0.10
Teachers	0.08	0.04	1.89	0.06	0.00	0.16
Parents	0.13	0.04	3.47	0.00**	0.06	0.21
Siblings	-0.04	0.05	-0.87	0.39	-0.13	0.05
Friends	0.03	0.04	0.97	0.33	-0.04	0.11
Influencers	0.11	0.07	1.44	0.15	-0.04	0.25
Blogs, articles	0.10	0.05	2.00	0.05*	0.00	0.20

** Significance at p<0.01, * Significance at p<0.05

Source: Own processing

5. Conclusion

The topic of new skills for future work is very important, given that it affects not only organizations but also employees and future employees, and related training and education. In our research, we focused on the view of secondary education students on the perception of the necessary skills in their future careers. Unlike other research on skills and competences, this was not a self-assessment, which may be skewed in the case of gender specifics of women (Van Deursen and Van Dijk, 2015), but a perception of the need for these skills in the future. Gender research shows a significant gap between women and men, especially in the field of technology, which was also confirmed by our research. However, the uniqueness of this research lies in the fact that it analysed a group of young people from Generation Z, who are only making decisions about their future careers and future education, and so it was possible to reveal significant gender differences before choosing a future direction. Our results show that women perceive the importance of technological and ICT skills significantly less than men in Generation Z by 26%, with the largest gender difference in all skills examined.

Digital and technological skills in the fourth industrial revolution are not just hard skills, but also a wide range of competencies and skills in the new digital world that will be needed by employees. For example, information skills in the digital world, communication in the digital world, cooperation processes in the digital world, creativity in the digital world or problem-solving in the digital world (van Laar et al. 2020). These skills will differ from the traditional view in the digital world in that a certain level of ICT skills will be required to apply them.

Several studies have discussed the possibilities to learn ICT skills in secondary and higher education through different project tasks, using different technologies or even mobile phones. (León-Pérez et al. 2020) Of course, universities are perceived as an important catalyst for the development of digital and ICT technologies (Miller, Dumford 2015), but in the context of our research the results indicate that significantly lower expectations of women from future work with technological and ICT skills may lead to their decision not to choose technically oriented education, or choose a career path not specifically focused on technology.

The COVID-19 pandemic has also had a significant impact on the shift in the use of ICT and digital technologies not only in the environment of organizations but also in the environment of education (Rouah et al. 2021). Students and teachers were forced to adapt quickly to the virtual environment and overcome the limitations created by the pandemic in the environment. Rodrigues et al. (2021) research points out that students are already exposed to ICT technologies in the secondary education process, and perceives the importance of technology for future careers, although our research points to a still significant gap between genders. Furthermore, during COVID-19 pandemic many new tools and methods have been used or at least introduced in education processes that can be applied for self-study of young adults as well, such as new ways of eLearning and online courses, gamified courses, smart technologies for learning, VR and others. These digital technologies and tools may lead to expanding opportunities for self-study and lifelong learning and will need to be a subject of further academic research.

Finally, the research analysis of the impact on future career and educational decisions revealed the greatest influence of parents and friends, with parents proving to be significantly more important for women. Nevertheless, no direct impact on the perception of the importance of technological and ICT skills was found. On the contrary, parents proved to be important in perceiving the importance of professional qualifications (expertise) for future careers. However, in the context of the Fourth Industrial Revolution, we can expect a change in the settings of the older generations (such as parents in this research) and their perception of technology as part of every job, not only in industry but also in service sectors. Building and developing digital skills and the whole package of related competencies will be essential for organizations and their innovation. Therefore, we see great potential in the effort to change the paradigms of technology perception in the digital world of the present and the future. The research also revealed significant results in the context of the formation of social skills, which are a very important part of the transformation of companies under the influence of the Fourth Industrial Revolution and which must be developed. Our research has shown that less than a quarter of young people in Generation Z consider customer orientation to be an important skill for the future, as well as time and task management, which is very important in building self-management teams, which are one of the new management trends in companies in many sectors.

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Performativity in Politics: Understanding the Role of Affect in Political News Coverage

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Abstract: The United States Democratic primaries for the 2020 election kicked off with an incredibly diverse pool of candidates with regards to gender, race, age, and socioeconomic status. However, as the primaries progressed and the pool of candidates narrowed, voters elected to nominate Joe Biden—a white man in his late seventies—to take on Donald Trump in November, 2020. Given the similarity between Elizabeth Warren's platform and Bernie Sanders', the purpose of this paper is to explore how news-media coverage contributes to the role of gender in campaigns for president in the United States. Grounded in a theoretical understanding of gender performativity in politics, this study uses a quantitative sentiment analysis of newspaper articles about both candidates to understand whether reporters expressed underlying sentiments differing based on the candidates' gender. Articles were selected from The New York Times (NYT), The Washington Post (WaPo), National Public Radio (NPR), The Associated Press (AP), and the Wall Street Journal (WSJ) to represent the diversity of reputable, mainstream news outlets considered to have minimal partisan bias available to the American public. Though the sentiment analysis revealed no significant difference in reporting across the different sources by candidate, factors such as rules for news publications and the nuances in political orientation of the two candidates may have limited the role of sentiment in contributing to political gender bias in this case study. This research is of broad interest as it sheds light on the current gendered political landscape in the United States, where a female president has yet to be elected. Furthermore, this study explores the within-party gender dynamics in reporting, in contrast to the myriad studies published in the aftermath of the 2016 presidential election in which Hillary Clinton lost to Donald Trump.

Keywords: gender performativity; politics; affect; sentiment analysis; elections; news media

1. Introduction

The Democratic primaries for the 2020 election kicked off with an expansive and incredibly diverse pool of candidates with regards to gender, race, age, and socioeconomic status (Enten, 2019). Ahead of the first caucus in Iowa, Elizabeth Warren and Amy Klobuchar were polling as part of the top five candidates still in the race for the nomination in addition to the three male frontrunners at the time (*Latest Polls - President: Democratic Primary*, 2020). As the primaries progressed and the pool of candidates narrowed considerably, however, voters elected to nominate Joe Biden, a white man in his late seventies, to take on Donald Trump in November, 2020. Despite running on powerful policy platforms, having extensive credentials and experience, and delivering powerful debate performances, the rhetoric surrounding these campaigns makes it clear that women face higher scrutiny and greater obstacles to successful campaign outcomes than their male counterparts. Particularly since the 2016 election, much research has focused on exploring the root causes of the obstacles women in politics face (Paul and Smith, 2008; see Bock, Byrd-Craven and Burkley, 2017; Ditonto, 2019; Ratliff *et al.*, 2019; Monteith and Hildebrand, 2020).

Given the similarity between Elizabeth Warren's platform and Bernie Sanders'—who had a formidable showing the primaries before ceding victory to Joe Biden—the purpose of this paper is to explore how news-media coverage contributes to the role of gender in presidential campaigns in the United States. Specifically, this paper analyzes whether newspaper articles about Bernie Sanders portrayed different underlying sentiments than those about Elizabeth Warren. It is important to shed light on the extent to which reporters express underlying sentiments that differ based on gender, given that particularly for the high-profile presidential election, information processing is just one step in a voter's months-long decision-making process. Furthermore, candidate gender can influence myriad political behaviors among the voting public including: the amount of information a potential voter seeks about a candidate, what sources are consulted, and how they choose to interpret "gender-neutral" information. The information available about women candidates more significantly influences perceptions of their competence than coverage of their male counterparts does (Ditonto, 2019). The foundation of this analysis will center around Judith Butler's concept of gender performativity as the basis for understanding the possible influence of candidate's gender on campaign success.

2. Theoretical framework

2.1 Gender performativity

Austin (1962) defined the notion of 'a performative' as a statement which that equates to the performance of an action. Though an individual's intention is a crucial component in producing the desired effect of a performative, Jacques Derrida suggested that the coherent and similar repetition of a performative across temporal and spatial contexts is what renders performatives intelligible (Chambers and Carver, 2008). Gender is a performative because it can be thought of as "the repeated stylisation of the body, a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of substance, the appearance of a natural sort of being" (Butler, 1990, p. 45).

The binary heterosexual matrix governs not only the importance of masculinity and femininity, but the behaviors, attitudes, and practices associated with each (Butler, 1993). Gender expression is rendered intelligible insofar as "dress, behavior and gesture always signal sex and gender *together*; the accumulation of these enactments produces a body presumptively sexed male or female" (Chambers and Carver, 2008, pp. 39–40). Performances of gender that conform to the regulatory norms are considered natural while those that transgress such norms are considered inappropriate and unintelligible (Ehrlich and Meyerhoff, 2014).

2.2 Gender in politics

Gender performativity is a useful concept in politics because, given that Americans continue to associate leadership roles with men, women who seek higher status positions face degrading and diminishing backlash penalizing them for "their power-seeking intentions" (Wilz, 2016; Ratliff *et al.*, 2019, p. 579). Women who run for political office are seen as transgressing gendered boundaries because the stereotypical normative expectations associated with femininity are fundamentally at odds with the behavioral expectations associated with political leadership (Bauer, 2013; Wilz, 2016). Masculinist norms are deeply embedded in politics, creating "a performative bind for women" (Bauer, 2013, p. 22) wherein they are expected to "discursively enact their femininity" (Campbell, 1998), while simultaneously "'measur[ing] up' to certain standards of manliness" (Katz, 2016, p. 233). Those who fail to strike the appropriate balance between masculinity and femininity not only face challenges in their campaigns, but also are subject to degradation, diminishment, intense hostility, and differential treatment (Campbell, 1998; Wilz, 2016). In politics, a particular performance of masculinity is associated with the required competency to occupy the position of president. This produces a self-fulfilling cycle wherein, because a woman has yet to occupy this position, they face a higher level of scrutiny and must meet a higher threshold of competency to gain an individual voter's confidence and support (Paul and Smith, 2008).

3. Methodology - sentiment analysis

3.1 Understanding affect

The "affective turn" (Clough and Halley, 2007) that has emerged since the 1990s has legitimated affect, emotions, and feelings as objects of social scientific inquiry (Cifor, 2016). The study of affect considers these objects as an expansive dimension of human experience and interaction that can provide additional insight into the ways in which bodies are organized, marked, perceived, and related (Gregg and Seigworth, 2010; Wetherell, 2012; Cifor, 2016). Affects themselves, though there is no universal definition, are typically thought of as the "forces or intensities" (Gregg and Seigworth, 2010, p. 2) that circulate between and among bodies, informing both one's sense of place in the world and how "power is constituted, circulated and mobilized" (Cifor, 2016, p. 10).

Inequalities are exacerbated by affect because emotions create and reinforce the boundaries around different collectives by transforming feelings into attributes of bodies (Ahmed, 2004). Affect becomes a source, for example, for policing gender performativity, ensuring that people perform their gender appropriately or face consequences from their peers. Thus, affect is important in political arenas where "politically salient ways of being and knowing are produced through affective relations and discourses" (Pedwell and Whitehead, 2012, p. 116). This means that women political candidates must espouse political norms encoded as masculine while facing consequences for transgressing norms of femininity. Because affect theory offers the "needed avenues for challenging dominant normative structures through which power, privilege and oppression are enacted"

(Cifor, 2016, p. 27) an examination of affect as it circulates throughout election campaign cycles can highlight the sources of oppression women face in running for the presidency.

3.2 Analyzing affect through sentiment analysis in R

One approach to analyzing text taking affect into account is through a sentiment analysis. Sentiments, similar to affect, are attitudes and emotions that have a polarity (are positive or negative), a source (a person or group holding the sentiment), and a target (an object towards which the sentiment is directed) (Fink *et al.*, 2011). This method involves identifying and extracting subjective information from textual sources to determine an author's attitude towards a particular object, the author's emotional state while writing, or the emotions the author wishes to convey to the reader (Hovy, 2015). The two primary outcomes of interest of sentiment analysis are the quantitative measures of polarity, i.e. whether a document and its expressions indicate positive or negative sentiments and opinions, and the main emotions that emerge through authorial word choice (Nasukawa and Yi, 2003; Khoo, Nourbakhsh and Na, 2012).

For the purposes of this analysis, the Bing lexicon developed by Bing Liu (2004) which scores a word as positive (+1), negative (-1), or neutral (0), and the NRC lexicon, a crowdsourced lexicon which tags words as positive, negative, or according to one of eight emotions: anger, fear, anticipation, surprise, acceptance, rejection, joy, or sadness (Mohammad and Turney, 2013). A word is scored as positive or negative by assessing it within the context of its four preceding and two following words to determine the presence of negators like "not" and valence shifters like "very" that might change the polarity of an identified word. Using sentiment analysis, the polarity scores (positive and negative scores) and the distribution of the eight different emotions were compared for articles with Bernie Sanders-specific headlines and Elizabeth Warren-specific articles to determine if there is a significant difference in reporting about each of these candidates.

3.3 Selection criteria

For this analysis, articles were selected from five news sources: The New York Times (NYT), The Washington Post (WaPo), National Public Radio (NPR), The Associated Press (AP), and the Wall Street Journal (WSJ). The choice of these five sources represents the diversity of reputable, mainstream news outlets available to the American public from billionaire-owned to publicly-funded to industry-slanted. News sources that are considered to have minimal partisan bias and focus on fact reporting were chosen (Langlois, 2018). The search was limited to January 1, 2020 to March 5, 2020, representing the run up to the first Primary contest in Iowa on February 3, 2020 through Elizabeth Warren's decision to drop out of the race after 'Super Tuesday' on March 3, 2020. This period reflects the rapidity with which Warren went from entering the new year as a front-runner alongside Bernie Sanders, Joe Biden, and Pete Buttigieg to suspending her campaign after failing to win a majority of delegates even in her home state of Massachusetts. The search terms "Warren" and "Sanders" were used, filtering to articles where these names appeared in the headline. This allowed for a focus on articles about a specific candidate rather than the general pool of candidates or the election as a whole. All of the articles that fit these criteria from each source were included. Overall, there were significantly fewer articles specific to Elizabeth Warren-specific headlines than to Bernie Sanders (Table 1).

Table 1: Number of articles by candidate and news source

	New York Times	**National Public Radio**	**Associated Press**	**Wall Street Journal**	**Washington Post**	**Total by Candidate**
Elizabeth Warren	25	4	34	24	16	**103**
Bernie Sanders	72	18	110	112	79	**391**
Total by Source	**97**	**22**	**144**	**136**	**95**	**494**

4. Results

4.1 Positive and negative polarity

The average polarity score for each candidate showed that both candidates were spoken about positively overall, though Warren had a higher positive polarity score and lower negative polarity score than Sanders

(Figure 1 and Figure 2). Similar words contributed to these positive and negative scores for each candidate, though their frequency differed slightly (Figure 3 and Figure 4). For example, though "critic" and "rival" were among the twenty most score influencing words for both candidates, "rival" was the most influential for Warren (Figure 3) compared to "critic" for Sanders (Figure 4).

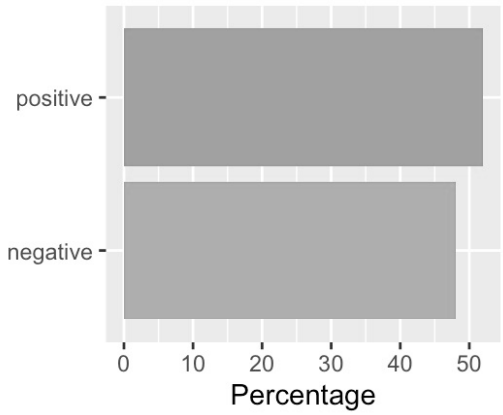

Figure 1: Overall polarity score for Bernie Sanders

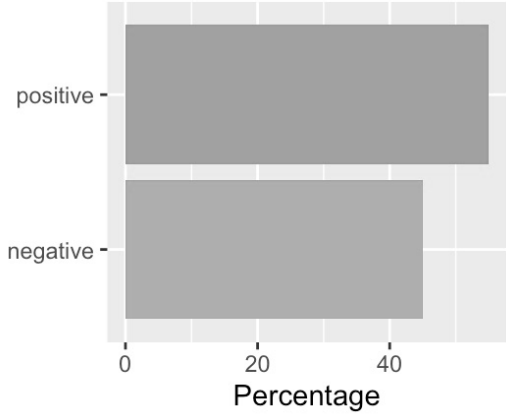

Figure 2: Overall polarity score for Elizabeth Warren

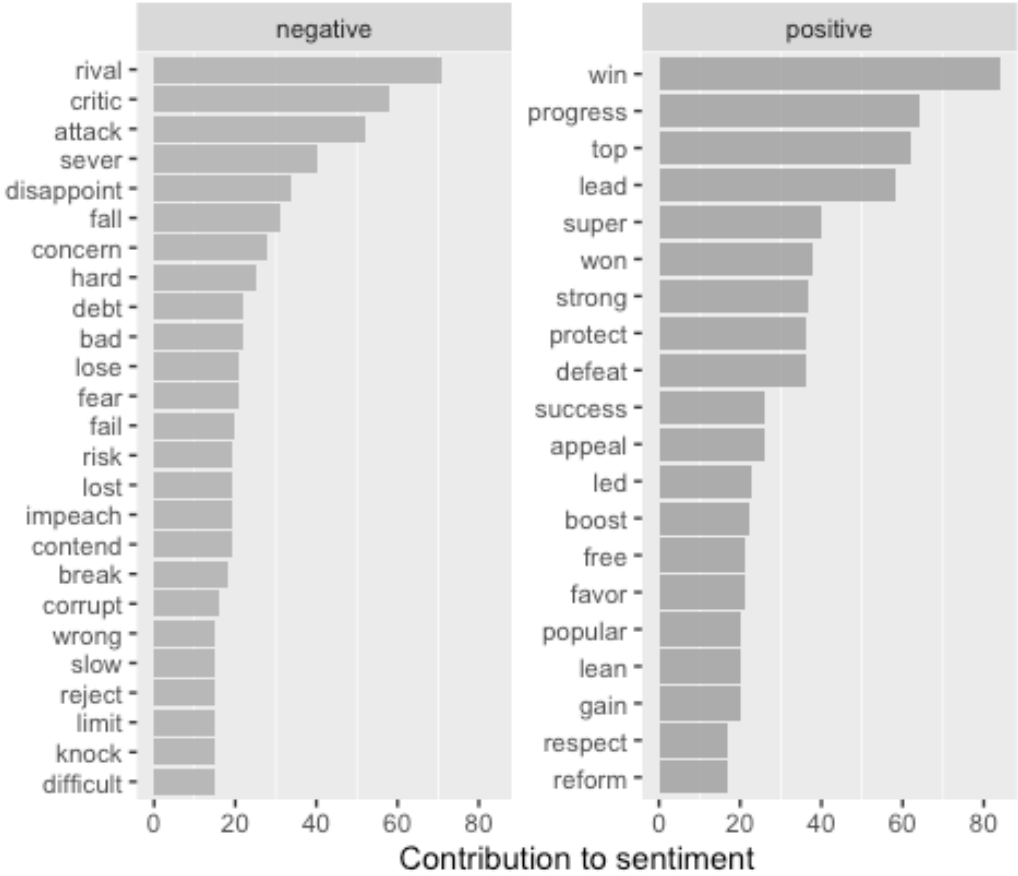

Figure 3: Word contribution to sentiment for Elizabeth Warren

Boxplot graphs by news source (Figure 5), representing the quartile distribution of scores for each candidate showed a more positive score for Elizabeth Warren on average for the Associated Press, National Public Radio, and the Washington Post, though the median scores (represented by the thick line at the center of each box) were almost identical for the two candidates in articles by the New York Times and the Wall Street Journal. The range of scores for the two candidates was also similar for the Associated Press; however, for the rest of the sources, the range of scores was larger for articles about Bernie Sanders than Elizabeth Warren. It is possible that the larger number of articles specific to Sanders contributes to the presence of a wider range of scores.

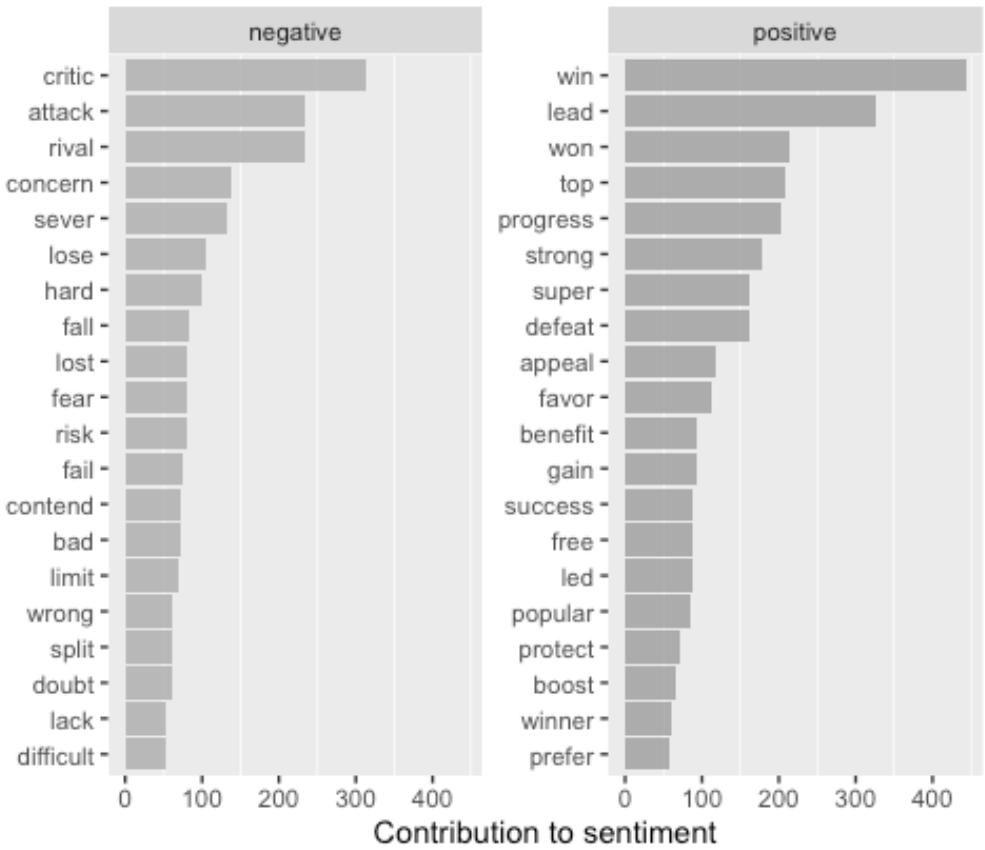

Figure 4: Word contribution to sentiment for Bernie Sanders

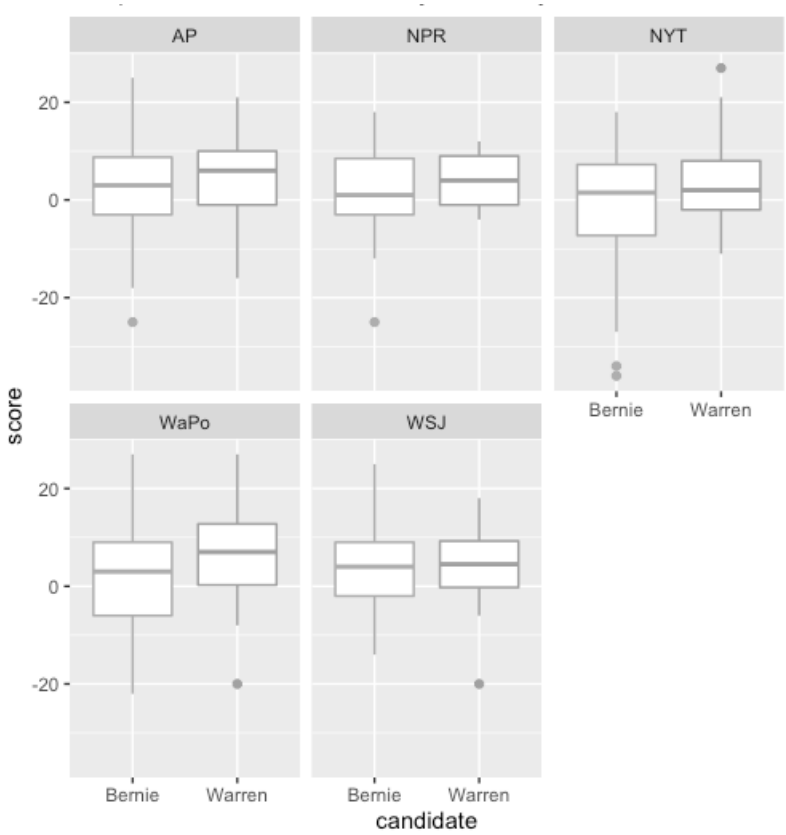

Figure 5: Boxplot of candidate polarity score by source

4.2 Emotion-Related word scores

With regards to specific emotion-related words, Bernie Sanders and Elizabeth Warren both scored highly with trust and saw similar distributions for the other seven emotions (Figure 6 and Figure 7). Elizabeth Warren scored more highly on joy (10.8%) than anger (10.56%) and sadness (9.89%) (Figure 6), whereas Bernie Sanders scored more highly on anger (11.55%) and sadness (10.17%) than joy (10.38%) (Figure 7).

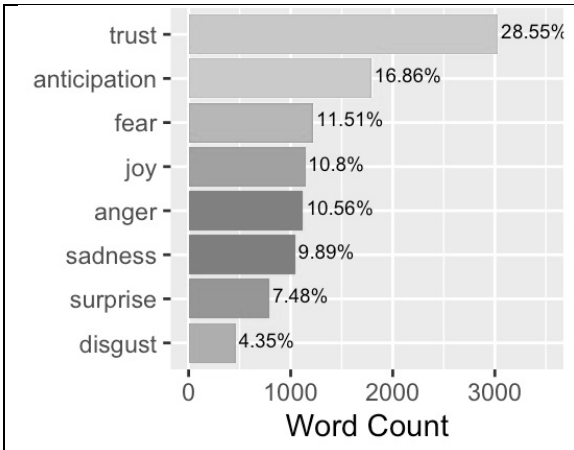

Figure 6: Elizabeth Warren sentiment breakdown

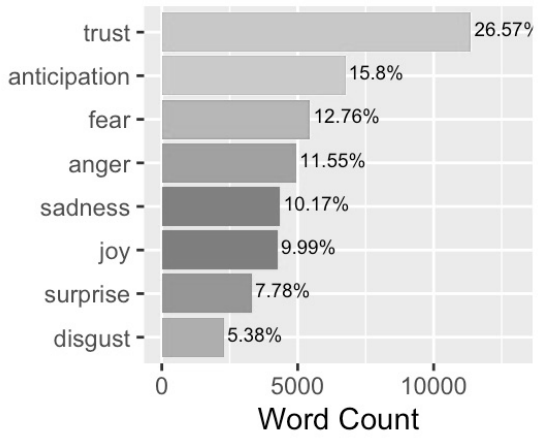

Figure 7: Bernie Sanders sentiment breakdown

5. Discussion

5.1 Overall observations

The results indicate that there was no significant difference in sentiment across the different sources by candidate, though there was slightly more positivity associated with Warren than Sanders. The lack of stark difference in polarity and sentiment that emerges does not, however, mean that gender does not play a role in determining political outcomes. As discussed above, women face greater obstacles towards political success than their male counterparts in the United States political landscape. The results of this study do not negate the impact of gender on candidate success, but rather suggest that this effect is not clearly apparent at the level of reporter sentiment. There are two main reasons why there may not have been differential sentiment between reports on Elizabeth Warren and Bernie Sanders in this particular study: news coverage and perceptions of campaign viability

5.2 News coverage

Since the 1970s, many major news publishers have had guidelines in place promoting the use of "politically correct" language, including avoiding sexist language (Cameron, 1995). However, despite these guidelines and the widely held belief by many media consumers that their preferred news source is a neutral, objective, fact-based source of information, it is rarely the case that these news sources do not exhibit some sentiment or bias (Godbole, Srinivasaiah and Skiena, 2007, p. 1). In fact, particularly with the rapid expansion of online media consumptions, "news expresses opinions regarding news entities, which may comprise of people, places, or even things, while reporting on events that have recently occurred" (Taj, Shaikh and Fatemah Meghji, 2019, p. 1).

As noted above, news sources that are typically considered to be centrist and unbiased were chosen (Figure 1). This would suggest that any sentiment that emerged would be relatively balanced between positive and negative, and supports the finding of only slight variation in sentiment towards Bernie Sanders and Elizabeth Warren. Had it been possible to include Jacobin (openly left-leaning) and the National Review (openly rightwing) as initially intended, it is possible that such explicitly skewed sources might have exhibited a more significant difference between the candidates and more dramatic positive or negative polarity overall.

Though sentiment and polarity were similar between the two candidates, the effects of gender bias in media reporting becomes clearer when looking at the number of articles written about Bernie Sanders as compared to Elizabeth Warren. Studies have shown that female candidates typically receive less coverage in the news than

their male peers (Bauer, 2013). Across all of the news sources, coverage favored writing articles about Sanders over Warren. Though Warren was a front-runner throughout the fall of 2019 and showed promise in polls leading up to the first primary contest, it is possible that the imbalanced news coverage might have influenced the level of support she received when it came time to vote. Candidates may have opted to vote for the progressive candidate on whom they had received more information, Bernie Sanders, particularly given that voters often seek out more information about female candidates (Ditonto, 2019) and may not have found sufficient sources to instill confidence in Warren's competence.

Additionally, there were several high-profile events in the fall and early spring that may have influenced primary coverage and outcomes. In the fall Donald Trump faced impeachment proceedings and the new year began with a dramatic escalation of military tension between the United States and Iran, followed by the onset of the global Covid-19 pandemic. In addition to the impact of Covid-19 on voters' day to day lives and the logistics of hosting primaries, expansive news coverage of these major events might have drawn attention away from the primary contest.

5.3 News source perception of candidate campaign viability

Elizabeth Warren and Bernie Sanders ran on a similar progressive policy platform that underscored the importance of student loan debt relief, 'Medicare for all,' and taxation for the country's richest citizens. The similarity in the sentiments that emerged in the analysis may be related to what has been termed a "centrist bias" in the media. This bias refers to the "instinctual suspicion of anything suggesting ideological zealotry" (Leonhardt, 2019). Despite the tendency of many, including Donald Trump, to claim a liberal bias in the media, news sources often cast doubt and suspicion on candidates like Elizabeth Warren and Bernie Sanders who openly advocate changing the status quo in dramatic ways (Leonhardt, 2019). As shown in Figures 1 and 2, though the candidates' polarity scores were skewed positive overall, this positive slant was not dramatic—approximately 45% negative and 55% positive for Bernie Sanders and 40% negative and 60% positive for Elizabeth Warren.

Elizabeth Warren, however, is a registered democrat with a history as a registered Republican, while Bernie Sanders is officially registered as an independent and positions himself as a democratic socialist (Thompson, 2019). It is possible that Sanders' positioning as such contributed to an ongoing sense that Warren was, however progressive, a more centrist choice than Bernie Sanders. If one accepts that there is a "centrist bias" in the media, a comparatively moderate Warren would be more palatable to the Democratic establishment regardless of her gender. Portraying Warren as a more moderate version of Sanders may have contributed to the slightly more positive sentiments that emerged in articles about Warren compared to Sanders. It is possible that a comparison of Warren to a true centrist like Pete Buttigieg or Joe Biden might have shown different emerging sentiments, and may have pointed more clearly to the role that gender might have played in news source framing of candidates.

Similarly, it is possible that the association of both candidates with a left-leaning, liberal agenda might have contributed to similar sentiments between the two candidates. Research has frequently shown that more conservative, Republican discourses tend to follow normative gender scripts more faithfully than Democratic discourses of liberalism and that members of the political right have successfully linked liberalism to "weakness, dependency, and helplessness—qualities seen by most male-dominant societies as feminine" (Ducat, 2004, p. 6; Gibson and Heyse, 2010). This framing positions all "progressive politics—like care for the environment, gay and lesbian civil rights, and government regulations of corporate behavior— […] as feminine" (Gibson and Heyse, 2010, p. 237). It is possible, then, that both Warren and Sanders faced a certain degree of sexism insofar as their advocacy for a progressive political agenda marks a transgression of gender norms and a failure to perform gender "correctly" in and of itself, regardless of the candidate's own gender. In fact, this may have contributed to Bernie Sanders' failure to secure the democratic nomination against Hillary Clinton in 2016.

Research on the 2016 election cycle and Hillary Clinton's loss consistently highlights the role of gender in news coverage as well as politics more broadly. In addition to the above points, it is possible that gender played a more significant role in 2016 than in 2020 because, once Clinton secured the Democratic nomination, she faced Donald Trump, the Republican nominee who was more overtly sexist (Monteith and Hildebrand, 2020). Both news coverage and comments made by Trump focused on Clinton's appearance and temperament, as opposed to her extensive qualifications (Bock, Byrd-Craven and Burkley, 2017). His comments readily invoked hostile sexist rhetoric, which conveyed actively antagonistic attitudes towards women (Ratliff *et al.*, 2019; Monteith

and Hildebrand, 2020). It is possible that we would have seen a similar dynamic had Warren faced Trump in 2020, however, the contestation for the Democratic nomination consisted of more covert sexism, a nuanced version of sexism characterized by a denial of ongoing discrimination coupled with "antagonism toward women's demands, and lack of support for policies designed to help women" (Ditonto, 2019, p. 593). As such, news coverage of the candidates, particularly if oriented towards fact-based reporting, would not show sexist sentiments as prominently. A sentiment analysis comparing articles about Hillary Clinton to Donald Trump might have shown a higher prevalence of sentiments like disgust and anger, as well as an overall negative polarity score for Clinton as compared to Trump.

6. Conclusion

Studies have shown that "readers and viewers do not necessarily consume texts in straightforward or predictable ways" (Ehrlich and Meyerhoff, 2014, p. 9), pointing to the possibility that voters' underlying beliefs and biases can influence how a text is interpreted, regardless of the author's emotional intent. Consumers of media frequently draw inferences that go beyond the surface-level meaning of a text based on their pre-existing gender- and sexuality-related ideologies (Ehrlich and Meyerhoff, 2014). Whether or not a text explicitly discusses or exhibits gender-based bias, consumers often read the information through their own understandings and beliefs about gender (McConnell-Ginet, 2014; Ditonto, 2019). Though these particular news sources did not point to the role that gender plays in political reporting, it is possible that the consumers of the different articles will still draw gender-related conclusions about the candidates, which could ultimately inform their voting choices. It is, therefore, important to explore the role that gender plays in politics from all potential sources and to understand whether biased beliefs about gender are already held by the voter or reinforced by sources like the media, because "sexist attitudes are indeed relevant to voting behavior over and above political ideology and other group-based attitudes" (Ratliff *et al.*, 2019, p. 589). Studies have shown that perceptions about competency influence vote choice, and in hypothetical presidential election scenarios men consistently received higher ratings for effectiveness than equally qualified women candidates (Paul and Smith, 2008). Conducting a sentiment analysis to determine if certain news sources contribute to such biases might allow readers to judge a source's credibility and understand the extent to which it might be trying to manipulate readers' judgment by relying on emotional communication (Aker *et al.*, 2019). Similarly, understanding the underlying reasons why gender plays a role in determining political outcomes is most useful if the contributing sources can be identified. This would allow a more systematic and effective approach to addressing any bias that might negatively impact women candidate's performance in ways that would not have affected her if she were a man.

Areas for further research include broadening the scope of the analysis to include true centrist candidates like Joe Biden and Pete Buttigieg so as to control for the role of political orientation, and including candidates like Kamala Harris and Cory Booker, both candidates of color to understand the role that race might have played in the primaries.

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Improving Democracy: Gender Quotas and Diversity in Canada

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Abstract: The adoption of quotas for the election of women is a worldwide trend that is changing the face of national politics in many countries. Research shows that such measures are successful. First, this text reviews international literature on the adoption of gender quotas for electing women and their impact on minority women. What are the processes leading to the adoption of gender quotas in different contexts? Who initiates the process? How do quota campaigns get started? In the second section, the text uses Canada as a case study to understand the starting point for gender and/or diversity quota campaigns. In Canada, the idea of quotas for women and for minorities is on the agenda of many political organizations, but although there seems to be a new symbolic opening for having gender quotas at some levels of Canadian political institutions, popular support is still low. What about quotas for other groups such as minorities? A survey conducted in 2016 found that a majority of Canadians are open to designating seats for the country's Indigenous peoples to boost their representation in Parliament and on the Supreme Court. Another study conducted on existing affirmative action programs provides insight on how quotas are perceived. These programs, in operation since the 1980s, are aimed at redressing past inequities and promoting the hiring of five designated groups. The survey indicates that no one is in favour of discriminating against marginalized groups; nevertheless, a large majority of respondents supported meritocracy and resisted affirmative action. In the 2021 Canadian federal election, there were no gender quotas and the number of women elected at the Canadian Parliament was 30% percent, a 1% increase from the 2019 election. In Quebec, one of the thirteen provinces and territories of Canada, an informal campaign for gender quotas in the 2018 provincial election has led to the election of 41% of women. Gender quota campaigns create openings to introduce diversity into the conversation. More research is needed to explain why there is still resistance to certain types of quotas such as gender quotas in the specific context of Canada. Overall, bringing a more diversified body of representatives to parliaments contributes to the revitalization of electoral politics and can improve democracy.

Keywords: Democracy; quotas; gender; Canada; diversity

1. Introduction

In 2022, about 50% of the countries of the world have electoral quotas; the use of electoral gender quotas is much more widespread than is commonly held (Institute for Democracy and Electoral Assistance, IDEA). The adoption of quotas for the election of women is a worldwide trend that is changing the face of national politics in many countries (Hugues, 2011). Why? Research shows that gender quotas work. They have diffused rapidly around the world in recent decades and this has resulted in dramatic transformations in women's access to political power (Krook, 2016). Gender quotas have a greater impact than other institutional factors on the presence of women in elected office (Franceschet 2021, 125) and they may have an acceleration effect on women's representation in leadership posts (O'Brien and Rickne, 2016). Although electoral gender quotas have emerged as one of the critical political reforms of the last two decades (Krook and Zetterberg, 2014), a new wave of research is raising questions about the impact of gender-only quotas on a wide variety of representative processes. Joshi and Rakkee (2018) document how, in recent years, quota scholars have shifted their attention from the causes behind parliamentary gender quotas to their consequences for representation. Krook and Zetterberg raise issues about the diversity of women elected under quota regimes (2014, 287–88). Celis and Erzeel (2013) use an intersectional framework in their analysis of political quotas; they introduce variables such as race and ethnicity to assess the output of gender quotas in two contexts. They observe that ethnic minority groups have experienced difficulties to integrate into formal politics; when ethnic minorities have been integrated it was through the presence of ethnic minority *women*. Allen et al. (2016) show that gender quotas do not reduce the quality of politicians elected through quotas; quotas women are as equally qualified for political office as their colleagues.

Although they have been adopted in more than 130 countries, quotas are not universal (Krook, 2019). In Canada, there are no electoral quotas for the election of women at the national level even if the percentage of women elected is low, Canada being at the 59th position of the Inter-Parliamentary Union ranking (Equal Voice). Canadian initiatives over the last thirty years to counter the problem of low numbers of women elected have been characterized by a strong emphasis on training for political office and a lack of mobilization in favour of gender quotas. In Canada, several women's organizations were formed to take up the electoral project. These groups encourage and assist women running for office. A common feature of their proposed approaches to the problem of women's underrepresentation in governments is to target women individually and train them for

politics, assuming that low numbers of elected women are linked to individual women and not to structures. These groups work to increase the numbers of women elected without quotas or reserved seats for women. They operate on the hypothesis that it is women who must adapt or be changed in order to comply with the requirements of a political career. The prevailing form of intervention is training programs designed to help women work on their inadequacies vis-à-vis the political system, be they a lack of competence or perceived lack of confidence, the underlying assumption being that providing women with political skills will result in an increased number of women running for politics and winning elections (Maillé, 2015).

Given the slow speed by which the percentage of elected women is growing on the Canadian territory, the idea of quotas for women and for minorities is in the air. There seems to be a new symbolic opening for having gender quotas at some levels of Canadian political institutions, but popular support is still low. Franceschet argues that arguments against quotas in Canada are based on flawed claims about a mismatch between what makes quotas effective and Canada's political realities (Franceschet 2021, 125). She identifies three common objections against the adoption of gender quotas at the national level in Canada: quotas are ineffective in countries such as Canada, with single-member district electoral systems; quotas clash with the principle of local autonomy in candidate selection; quotas undermine the principle of merit in candidate selection (126). In her analysis, Franceschet shows that each of these objections is based on flawed arguments.

What about quotas for other groups? A survey conducted in 2016 by Environics Institute and the Institute on Governance found that a majority of Canadians are open to designating seats for the country's Indigenous peoples to boost their representation in Parliament and on the Supreme Court (May, 2016). Another study conducted on existing affirmative action programs in the Canadian context provides insight on how quotas are perceived. These programs are aimed at redressing past inequities and promoting the hiring of five designated groups: women, visible minorities, racial minorities, Indigenous peoples, and persons with disabilities. The survey indicates that no one is in favour of discriminating against marginalized groups; nevertheless, a large majority of respondents support meritocracy and resist affirmative action (Ng, 2016).

In the next section of this text, I refer to two authors who raise questions about gender quotas in relation to minority women and diversity and I review research on processes that lead to the adoption of gender quotas. Who initiates the process? How do quota campaigns get started? I use Canada as a case study to examine the starting point for gender and/or diversity quota campaigns. I analyze recent Canadian federal elections and the results obtained in terms of numbers of women elected without gender quotas. Then I look at an informal yet successful campaign for gender quotas conducted in Quebec, one of Canada's province. In my conclusion, I make four observations: 1- in Canada, there is evidence of growing social pressure to have a more diversified body of representatives; 2- more research is needed to explain why there is still resistance to certain types of quotas in the Canadian context; 3- campaigns for gender quotas can also create openings to introduce diversity into the conversation; 4- quotas can be seen as a way for rejuvenating democracy.

2. Gender quotas, minority women and diversity

According to Huber, evidence that supports the positive impact of gender quotas in political representation is mounting, and the debate has shifted from 'do they work?' to 'what else is needed?' There is agreement in scholarship and practice that gender quotas require enforcement mechanisms, incentives and accompanying action and activities to produce gender equality in political leadership. Huber identifies a new challenge in today's discussion of quotas: the treatment of women as a monolith. She writes, "The rise in discussions about intersectional feminism ... is a global trend, perhaps most visible as a deliberate inclusion strategy ... Women have unique experiences because of their race, class, religion, disability, sexual orientation and gender identity. How does this diversity play a role in implementing gender quotas?" (Huber, 2017).

Hugues (2011) looks at how quotas affect minority women. She identifies the conditions under which gender quotas and minority quotas might improve the political representation of minority women through a worldwide analysis comparing the election of women from more than three hundred racial, ethnic, and religious groups across eighty-one countries. Policies designed to promote the political representation of women and of minority groups interact to produce diverse but predictable outcomes for minority women. She concludes that the quota policies currently in effect rarely challenge majority men's dominance of national legislatures.

One question raised by Hugues is which type of quota is best for promoting representation of marginalized groups. For Hugues, empirical research on quotas tends to ignore minorities and minority women and it leaves at least three important questions unanswered. First, do quotas effectively increase the political representation of minority females relative to their majority female and minority male counterparts? Second, which policies – party gender quotas, national gender quotas, or minority quotas – tend to benefit minority women the most? Third, do minority women benefit or suffer from the simultaneous presence of these policies? She concludes that gender and minority quotas tend to benefit primarily majority women and minority men. Minority women do benefit from national gender quotas or minority quotas to a lesser degree, but majority women appear to be the only beneficiaries of party gender quotas. The picture changes substantially, however, when these policies are combined. The few countries with tandem quotas have dramatically higher levels of minority women's legislative representation than do countries with any other institutional configuration of quotas (Hugues, 2011).

3. Processes leading to the adoption of gender quotas

Another important question that relates to the adoption of gender quotas in politics has to do with the process that leads to their adoption. Who initiates the process? How do quota campaigns get started? Krook (2010) identifies two key elements: women in civil society and political parties. She also highlights the importance of context: quota campaigns are successful to the extent that quotas mesh with pre-existing political dynamics. In their 2006 study, Krook et al. identify additional elements: usually, quota proposals originate with women's groups inside political parties, but these efforts culminate in quota adoption only when elites perceive such policies as an effective way to compete favourably with other parties for the support of female voters. The authors also note that how the notion of equality is understood and applied in a country will influence the discussion on quotas. They suggest that representations of equality are related to citizenship models and identify Canada as having a liberal citizenship model that involves a philosophical commitment to individuals, favours equal opportunities, attributes responsibility for unequal outcomes to individuals (merit), and views prospects of change in terms of individual initiative.

4. Canada and quotas

An explanation for the absence of gender quotas for women in Canadian politics has to do with the fact that none of the elements identified in the previous section as possible starting points for gender quota campaigns have ever mobilized around this claim in this specific context. In the October 2019 election, without gender quotas, the number of women elected to the Canadian Parliament rose by 3 percentage points, to 28.9 percent (98 women/338 seats). In the 2021 Canadian federal election, there were still no gender quotas and the number of women elected at the Canadian Parliament was 30% percent, a 1% increase from the 2019 election (103 women/338 seats).

Among factors proposed to explain the absence of mobilization for gender quotas in Canadian electoral politics, Young (2013) identifies features of Canadian political culture, such as the notion that political parties are private entities and the belief in merit over affirmative action. According to Young, Canada has inherited the British notion that political parties are private entities that should not be subject to extensive state regulation and the population tends to support merit over affirmative action in the hiring of employees, including politicians.

In 2015, the newly elected prime minister, Justin Trudeau, appointed a parity cabinet, with women holding 50 percent of ministerial seats. When asked why he prioritized gender equality when recruiting ministers, he answered, "Because it's 2015" (Chartrand, 2015). The principle of a cabinet with an equal number of women and men became a permanent commitment for the liberals during the 2019 and 2021 electoral campaigns. The cabinet made international headlines for being one of the most diverse in Canadian history in its gender but also in its ethnic composition (de Geus and Loewen, 2021, p. 13). This example implies that the idea of quotas is current in Canadian politics, even if not directly translated into measures at the candidate level. Another form of quotas that has been constitutive of Canadian politics is about territory, an argument put forth by Bashevkin who suggests to use Canada's geographic quotas as a guide for building the demand for gender representation: "What about introducing rules that insist on gender representation – to parallel existing provisions that entrench geographic or territorial quotas in our system?" (Bashevkin, 2009, 151). Also, because regional representation has always been at the centre of selection to Canadian cabinets, issues of diversity and quotas have been reflected in some aspects of Canada's electoral system and "in the end, those who disagree with such quotas bear the burden of demonstrating that the equitable representation of women in government is unmeritorious – a position that is simply not supported by evidence" (S. Franceschet, K. Beckwith and C. Annesley, 2015). In

the view of Franceschet, Beckwith, and Annesley, critics of quotas have framed the debate in a way that sets up an irreconcilable tension between the principle of merit and the goal of diversity.

In 2018, *Maclean's* magazine published an editorial titled "It's in the Air: Canada Should Elect a Gender-balanced Parliament in 2019." The author made reference to the need for change in the House of Commons: "Nearly a century after Agnes MacPhail was the first woman elected to the House of Commons, only about a quarter of seats are held by women. It's time for that to change." In 2019, the government of Canada conducted hearings on measures that could be implemented to help improve the representation of women in electoral politics in Canada. Various opinions were presented on quotas. In its final report, the committee but made a recommendation to registered parties to set voluntary quotas for the percentage of female candidates they field in federal elections and to publicly report on their efforts to meet these quotas after every federal general election (House of Commons Canada, 2019).

4.1 The 2021 election in Canada

In the most recent federal election, held in September 2021, a total of 102 women have been elected to the House of Commons, a slight increase from the 98 women elected after the 2019 general election which brings the percentage of women elected federally from 29% to 30% (Equal Voice). The gain is modest, considering that the highest percentage of female candidates than even before was running in this election (CTV News). In a press release, Equal Voice, one of the most influential groups working towards increasing women's representation among elected officials in Canadian politics, wrote: "In 2021 we are marking the 100th anniversary of the first woman MP being elected to the House of Commons and we are pleased to see that the largest number of women ever elected federally will be seated in the House this year to mark this historic anniversary. However, the fact that it has taken 100 years to elect over a hundred women MPs also shows us how much faster Canada needs to move forward and elect more women in order to achieve gender parity." Attention to the election of women representing marginalized communities is also demanded, since the Canadian political terrain is in no way equitable when it comes to Indigenous women: "instead, it is overdetermined by colonialism and historical and ongoing power dynamics that drastically favour colonial Canada at the expense of Indigenous peoples. Instead of an act of democratic citizenship, Indigenous women's political participation is innately adversarial: the colonized versus the colonizer" (Bourgeois, 2021, p. 49). Without quotas, the number of women elected at the national level in Canadian politics will remain unpredictable and possibly as low as 30% and this will undermine the quality of democratic life in a country where equality for all is a governing principle.

4.2 The 2018 election in Quebec

In Quebec, for years, feminist interventions on the problem of low numbers of elected women in politics identified clearly the gender gap in elected officials. The prevailing actions developed by women's groups were based on strategies such as training programs designed specifically for women. Despite decades of training programs, there were fewer women in provincial elected office just before the start of the last election, in 2018, than there had been in 2003. Things changed in the October 2018 provincial election: Quebec elected 41.6 percent women (52 women/125 seats). Although no legal quotas for women were implemented for that election, there was a strong movement in favour of the adoption of such quotas in the background of the 2018 Quebec election, which became an opportunity to introduce diversity to the gender quotas campaign.

In 2015, the Conseil du Statut de la femme (CSF), an advisory body to the government of Quebec, published *Les femmes en politique: en route vers la parité*. The study's authors looked at the impact of measures that had been implemented over the previous twenty years in Quebec to increase the numbers of elected women and concluded that these measures had been insufficient and therefore quotas were necessary. One specific recommendation was to adopt an obligation for political parties to recruit at least 40 percent women candidates, with financial penalties for parties that did not meet the objective. The CSF also expressed a concern for diversity with the introduction of gender quotas (CSF, 2015, 106).

The ideas brought forth by the CSF were supported by Groupe Femmes, Politique et Démocratie (GFPD), the most influential group in Quebec on women and politics. In a position paper presented in 2015, GFPD stated that the adoption of quotas was essential on a temporary basis (cited in GFPD, 2019). In a book published in 2015, journalist Pascale Navarro, a spokesperson for GFPD, argued for parity in Quebec's National Assembly. On March 8, 2018, GFPD launched the campaign #paritépourdebon, asking for measures to guarantee the joint representation of women and men. In May 2018, GFPD proposed a bill calling for parity in Quebec politics and specifically asking for an amendment to the Election Act that would force all political parties to ensure that

women make up 40 to 60 percent of all candidates. The GFPD proposal would have required every political party to field a minimum of 40 percent female candidates, a proportion that would rise to 45 percent in the subsequent election. During the 2018 Quebec election campaign, the question of quotas for women received a good deal of attention. In *Le Devoir*, a highly influential daily newspaper, a "*vigie parité*" (parity watch) was created, providing weekly reports on the progression of percentages of female candidates selected for each party. On September 11, 2018, *Le Devoir* journalist Guillaume Bourgault-Côté reported that the final count for that election was 47.9 percent female candidates. Though there were no legal quotas for the 2018 election, all four main parties exceeded the 40 percent target. Overall, the pressure was built through specific interventions made by the CSF and GFPD. Even the leading political party, Coalition Avenir Québec, more conservative on women's issues, went along, recruiting 48 percent women candidates, which is part of the explanation for this significant jump in the proportion of elected women. Interestingly, the public conversation around quotas for women in politics created an opportunity to introduce the issue of diversity into the discussion and Institut NéoQuébec kept a record of percentages of candidates from visible minorities. Québec solidaire had the highest percentage with 17 percent of racialized female candidates of all female candidates, against 14.6 percent for Coalition Avenir Québec, 7.1 percent for Parti québécois and 5.4 percent for Parti liberal du Québec (Institut NéoQuébec, 'Scope'). In a paper published in *Le Devoir*, sociologist Myrlande Pierre referred to the movement for a parity bill initiated by GFPD and she asked to include measures to promote diversity to a bill on parity: "How could we, in 2016, envision reaching parity in power structures without systematically integrating the principle of diversity? I'm asking the question to all progressive Quebec feminists" (Pierre, our translation).

5. Conclusion

Four observations can be made to summarize the arguments developed in this text. First, in Canada, there is evidence of growing social pressure to have a more diversified body of representatives. The mainstreaming of the demand for gender-balanced representation in the House of Commons has created new opportunities. The proportion of women elected in the 2019 and 2021 federal elections and the lack of progression in percentages of women elected over the last 20 years provide additional arguments for the implementation of gender quotas. Without such measures, the progress in numbers of women elected could remain slow and unpredictable for another century. The example of Quebec and its informal campaign for gender quotas in the most recent provincial election has shown that it is possible to build support for gender quotas by combining the strengths of women's movements with other public voices, without a formal legal framework. Another observation for the Quebec case is that when opportunities are offered to women, there is no shortage of candidates and all the traditional explanations for having fewer women candidates are overturned. A second observation is that more research is needed to explain why there is still resistance to certain types of quotas in the Canadian context, considering that the main arguments used against the implementation of quotas are flawed. A third observation is that campaigns for gender quotas can create openings to introduce diversity into the conversation, as illustrated by the campaign for diversity in gender quotas started in Quebec. More efficient ways to reach a gender-balanced and diversified body of elected representatives are necessary and quotas are on the list.

A final observation is that quotas can be seen as a way for rejuvenating democracy. Since quotas for women and for other underrepresented groups can ensure their inclusion in parliaments, they might help restore faith in democracy by bringing the interests of a more diversified body into the conversation. The introduction of quotas has helped overcome constraints on women's representation posed by economic underdevelopment, cultural influences, and even electoral systems (Tripp and Kang, 2008). In the same logic, diversity quotas can bring a wind of change in old parliamentary traditions. Quotas have often been adopted in countries where women have low status, with the help of international influence and promoting gender equality, including through gender quotas, has become a key part of international democracy promotion through postconflict peace operations, and indirectly, by encouraging countries, especially those that depend on foreign aid, to signal their commitment to democracy by adopting quotas (Bush, 2011), another illustration of the possibility of discussing democracy through quotas.

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Gender Differences in Burnout Syndrome and Perceptions of Gender Equality in Research Organisations

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Abstract: We present the results of a survey which was distributed to six research performing organisations in Albania, France, Germany, Italy, Serbia, and Spain. We found that both academic and non-academic women perceive 1) a greater degree of work pressure than men; and, 2) a greater degree of gender inequality than men. These results are consistent across countries. The fact that women occupy a lower percentage of senior positions than men and do not share the same perception of inequality, may be critical to the resolution of the *leaky pipeline* phenomenon. These results have provided incentives to the six organisations to implement measures that address gender biases to ensure a balanced gender representation at decision-making levels, and that improve work-life balance to reduce burnout syndrome and positively affect career satisfaction.

Keywords: gender bias, gender perception, gender inequality, burnout syndrome, leaky pipeline, survey, research organisations

1. Introduction

The best starting-point for developing an effective set of gender equality actions is to have a thorough understanding about how the organisation is doing regarding the promotion of gender equality (EIGE, 2016). In the specific context of research organisations and higher education institutions, the first step of this process is the identification of gender bias. The subsequent steps towards the development of a plan will identify and implement innovative strategies to correct any bias, by setting targets and monitoring progress via indicators.

In order to comply with these procedures and assess the gender equality state-of-play in their institutions, implementing partners of the Horizon 2020 project "Leading Towards Sustainable Gender Equality Plans in research performing organisations" (LeTSGEPs) have submitted a survey to their academic and non-academic staff. The survey has been developed by CY Cergy Paris University, and it is part of a wider project to explore the conscious and unconscious biases, perceptions and experiences of gender equality of both research and administrative staff working in research performing institutions. In this article, we document the responses to two questions about gender differences in burnout syndrome, and in the perceptions of allocations of tasks and resources.

Our study shows that women have a higher level of burnout syndrome, even though the gender difference is not always statistically different from zero. These results may have been affected by the unusual context in which the survey has been responded (Oreffice and Quintana-Domeque, 2021). When the study was conducted, in April 2021, the participants were subjected to partial or total lockdown measures due to the pandemic, with school closures, distance learning, and working from home. A *New York Times* report highlighted that the closing of schools had a significantly higher effect on working mothers since they still continue to bear the brunt of most child care obligations (Wang et al, 2020). Thus, the key challenge for women in particular has been to combine working from home with a considerably expanded "second shift" of looking after children (in the absence of schools or childcare facilities) as well as undertaking a majority of the housework.

Del Boca et al (2020) show that, in Italy, most of the additional workload associated to Covid-19 has fallen on women, while childcare activities are more equally shared within the couple than housework activities. These trends have also been documented by The European Institute for Gender Equality, and consequences in terms of scientific publications have been presented by Viglione (2020). Several analyses suggest that female academics have posted fewer preprints and started fewer research projects than their male peers during the pandemic (Amano-Patiño et al, 2020, Deryugina et al, 2021, Minello, 2020, and Squazzoni et al, 2021). Gewin (2021) discusses the findings of several surveys addressed to academics and health workers in the US and in Europe during lockdown: 75% of women reported feeling stressed, compared with 59% of men.

It is nonetheless important to signal that this phenomenon is not exclusive to this time of crisis, because even before the pandemic, many researchers in academia were struggling with poor mental health, as claimed by

Desiree Dickerson, an academic mental-health consultant in Valencia, Spain. More generally, the literature on burnout syndrome tends to be gender neutral (Leiter, 1991, among others), hence the results of this survey contribute to shed light on a phenomenon that may be linked to gender different experiences in the workplace.

In relation to the second group of questions, a higher percentage of women perceive that it is easier or much easier for men to obtain demanded tasks or resources. Gender differences in perceptions are significantly different from zero for both academics and non-academics. Our results are consistent with the findings of García-González et al (2019), and the observations of the British ASSET 2016, which provide clear evidence that men and women do not share the same perceptions of gender equality in science and that their differing perceptions are relatively consistent across Spain and the UK.

This data, strengthened by context analysis prior to the gender equality plan, and the fact that men occupy the majority of senior positions (She figures 2021) while not perceiving the same inequality as women do, underline that it may be critical to ensure the fair ascent of women to senior positions (Van den Brink and Benschop, 2012). Dismantling gender stereotypes and ideas about traditional gender roles could account for a decrease in the level of burnout syndrome, improve work conditions, and assure a fairer career path (Smyth and Nosek, 2015, Carli et al, 2016, and Leslie et al, 2015).

The paper is organised as follows. Section 2 describes the survey and the characteristics of the participants. In Section 3, we discuss the results to the questions about burnout syndrome and perception in allocation of tasks and resources. Section 4 concludes the paper.

2. Methods

2.1 Participants

A total of 6,791 individuals were contacted via email through their institutions. Of these, we analysed the data provided by 910 (or 13.4 percent of the total) respondents that did reach the end of the survey. Participants were given the option of not responding to each question. Respondents' ages ranged between 21 and 65 or over and represented all stages of the research (n = 541) and administrative career ladder (n = 320). Some respondents (n = 49) have preferred not to indicate their professional category.

The highest percentage of academic respondents are at the level of associate professors, and working in the departments of engineering and computing sciences. While this survey included the opportunity for respondents to indicate that they would prefer not to disclose their gender (n = 12), the data presented are limited to those respondents who identified themselves as either men or women. The final sample for the analysis from the 6 institutions is shown in Table 1. 66.3% (n = 603) were women and 33.7% (n = 307) were men.

2.2 Research ethics

The survey has been developed in Qualtrics, which provides a user-friendly environment for respondents. It required a computer to be completed, and devices without keyboards were not allowed. The data in this study were analysed anonymously. At the beginning of the survey, all participants were informed about the anonymization of their data. Responses were obtained between March 19 and April 16, 2021. We only included data of participants older than 18 years old.

The survey required about 20 to 25 minutes to be completed. CY Cergy Paris University implemented an incentive scheme and organised a raffle among respondents who completed the survey to obtain gift cards to be spent in cultural/entertainment goods of a predetermined brand. At the end of the survey, respondents had the possibility to contact the organizer to ask for the statistical analysis of the results obtained in their institution. Moreover, under the request of the Data Protection Officers, in some of the institutions, respondents have been assigned with a random number that allows them to ask for their data to be withdrawn from the analysis.

Three institutions made the survey available in their national languages: Serbian, Albanian, and Italian, respectively; two institutions made the survey available in the national languages (French and German) and in English; one institution located in Spain, made the survey available in English only.

Table 1: Sample characteristics and key frequencies

Gender		*Academic Staff*		*Research Areas*		*Non-Academic Staff*	
Women	603 (66.3 %)	Full Professor	62 (12.2%)	Arts, Humanities and Education	84 (16.2%)	Grade A	67 (20.9 %)
Men	307 (33.7 %)	Associate Professor	108 (21.3%)	Medical and Health	51 (9.9%)	Grade B	37 (11.6 %)
		Assistant Professor	37 (7.3%)	Economics, Business and Finance	100 (19.5%)	Grade C	11 (3.4 %)
Age		Instructor	57 (11.2%)	Chemical Sciences, Biology and Earth Sciences	22 (4.3%)	Grade D	118 (36.9 %)
21 to 34	282 (31.2 %)	PhD Student	57 (11.2%)	Engineering and computing	102 (19.9%)	Engineers and research technicians	31 (9.7 %)
35 to 44	236 (26.2 %)	Post-Doctoral Student	88 (17.4%)	Law and Political Science	39 (7.5%)	Other	56 (17.5 %)
45 to 54	236 (26.2 %)	Research Fellow	45 (8.9%)	Maths, Statistics and Physical Sciences	40 (7.8%)		
55 to 64	136 (15.1 %)	Researcher with tenure	27 (5.3%)	Sociology	23 (4.5%)		
65 and over	12 (1.3 %)	Researcher with fixed-term contract	26 (5.2%)	Other	52 (10.4%)		

2.3 Measures

Two dimensions of gender equality are documented in this report: perceptions of burnout syndrome and perceptions in the allocation of tasks and resources. Gender differences in perceptions of burnout syndrome were assessed using five statements such as “How many times in the last month did you find yourself worrying about work when you were not working?” or “How many times in the last month did you think that your family responsibilities prevented you from giving the time you should to your job?”. Each statement was rated using a 5-point scale ranging from 1 = “Never” to 5 =“Always”.

Perceptions of gender equality in the allocation of tasks and resources were assessed using 12 items, such as “Access career development opportunities”, “Obtain a permanent contract” or “Inform his/her department about health issues”. Each item was evaluated using a 5-point scale ranging from 1 = “Much easier for a woman” to 5 = “Much easier for a man”. For all questions, respondents were given the possibility to check “No answer”.

3. Results

3.1 Gender differences in burnout syndrome

A total of five items were used to evaluate the level of burnout perceived by participants in the last month (Figure 1) in terms of (1) worrying about work when not working, (2) being too tired after work to do some of the household chores which need to be done, (3) feeling that the job did not leave enough time for family or personal life, (4) working during weekends and holidays to meet work demands, and (5) feeling that family responsibilities took time away from work responsibilities.

On average across all five questions, perceptions of burnout were overall significatively higher for women (p-value < 0.02), with an average score across the five items close to neutral (M = 2.87, SD = 0.85) compared to

men, who perceived a lower level of stress related to work (*M* = 2.73, *SD* = 0.92). The percentage of responses and the related statistics are shown in Figure 1.

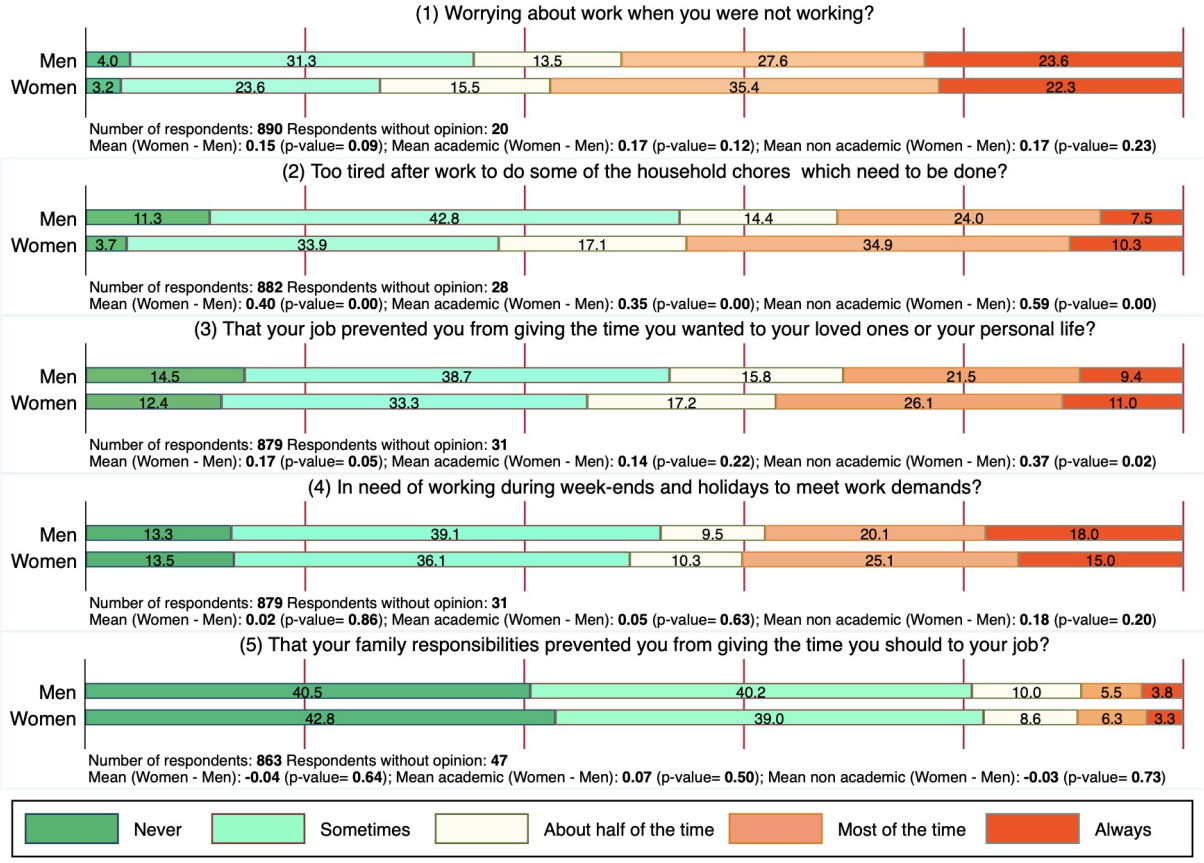

Figure 1: "How many times in the last month did you find yourself…" (% of respondents)

Women and men's levels of discomfort were striking for the question about worrying outside of working time (Panel 1), which shows that more than 57 (50) percent of women (men) worried about work when not working "most of the time" or "always" (women: *M* = 3.50, *SD* = 1.67; men: *M* = 3.35, *SD* = 1.25) (*p*-value < 0.10). Interestingly, about the same percentage of men and women (3-4 percent) "never" had this issue. A deeper analysis shows that, even though scores are higher for academic men and women, gender differences are not statistically different from zero.

The largest statistically significant gender differences are observed when participants were asked about being too tired for household chores after work (Panel 2). 45 percent of women (M = 3.14, SD = 1.11) are "most of the time" or "always" too tired after work, while only 31 percent of men are worried about not being able to do household chores (M = 2.74, SD = 0.68). Moreover, gender differences are statistically different from zero for all staff members, but higher for non-academics (women: *M* = 3.11, *SD* = 1.07; men: *M* = 2.52, *SD* = 1.08).

Panel 3 shows that women (*M* = 2.90, *SD* = 1.23) perceive that work prevents them from spending enough time with their family with a statistically significant higher score than men (*M* = 2.73, *SD* = 1.22). The same gender difference is not statistically different from zero for academics (women: *M* = 3.02, *SD* = 1.21; men: *M* = 2.89, *SD* = 1.22), but it is positive and significant for non-academics (women: *M* = 2.77, *SD* = 1.23; men: *M* = 2.40, *SD* = 1.17).

When respondents were asked about their work-related stress during weekends (Panel 4), for both men and women, item means ranged between 2.90 (*SD = 1.35*) and 2.92 (*SD = 1.32*), and their difference is about zero. Nonetheless, about 40 percent of the respondents are "most of the time" or "always" worrying about work on weekends or during holidays.

Panel 5 shows that most men (*M* = 1.92, *SD* = 1.03) and women (*M* = 1.88, *SD* = 1.03) felt that family responsibilities interfered only "sometimes" or "never" in their job. This is the only question where the man's

average score is higher than the woman's average score. The same gender inversion of scores is observed for non-academics (women: *M* = 1.54, *SD* = 0.78; men: *M* = 1.58, *SD* = 0.86), but not for academics (women: *M* = 2.14, *SD* = 0.06; men: *M* = 2.07, *SD* = 0.08).

Distribution of responses by gender where responses ranged from 1 = "Never" to 5 ="Always". The neutral value is 3 = "About half the time". Statistics include: no. of respondents, no. of respondents without an opinion, mean difference of scores, mean difference of scores of academics and non-academics, and their corresponding *p*-values.

Overall, in 4 out of 5 items, academic and non-academic women exhibit a higher level of work related stress than men do. Our survey has been conducted during a peculiar period of lockdown and school closures, and our results could have been exacerbated by the new unexpected working conditions. Nevertheless, they are in line with the findings of the extensive literature that has been published on gender differences in mental health (Oreffice and Quintana-Domeque, 2021). Moreover, an annual survey, the Barometer Good Work 2021, shows that the Covid pandemic made women "significantly less satisfied" than men in all the categories that are monitored, but, interestingly, in relation to our results, four years ago this was the case only for stress.

3.2 Gender differences in perceptions of gender equality in the allocation of tasks and resources

To evaluate whether men and women perceive that tasks and resources are equally allocated in their departments, twelve items were assessed and included evaluations on the allocation of professional development resources (Figure 2), markers of esteem (Figure 3), and academic / administrative duties (Figure 4). On average, over the 12 questions, women perceived that tasks and resources are more easily allocated to men, and the gender difference in scores is statistically different from zero for both academic and non-academic staff (women: *M* = 3.30, *SD* = 0.43; men: *M* = 3.03, *SD* = 0.34; *p*-value = 0.00).

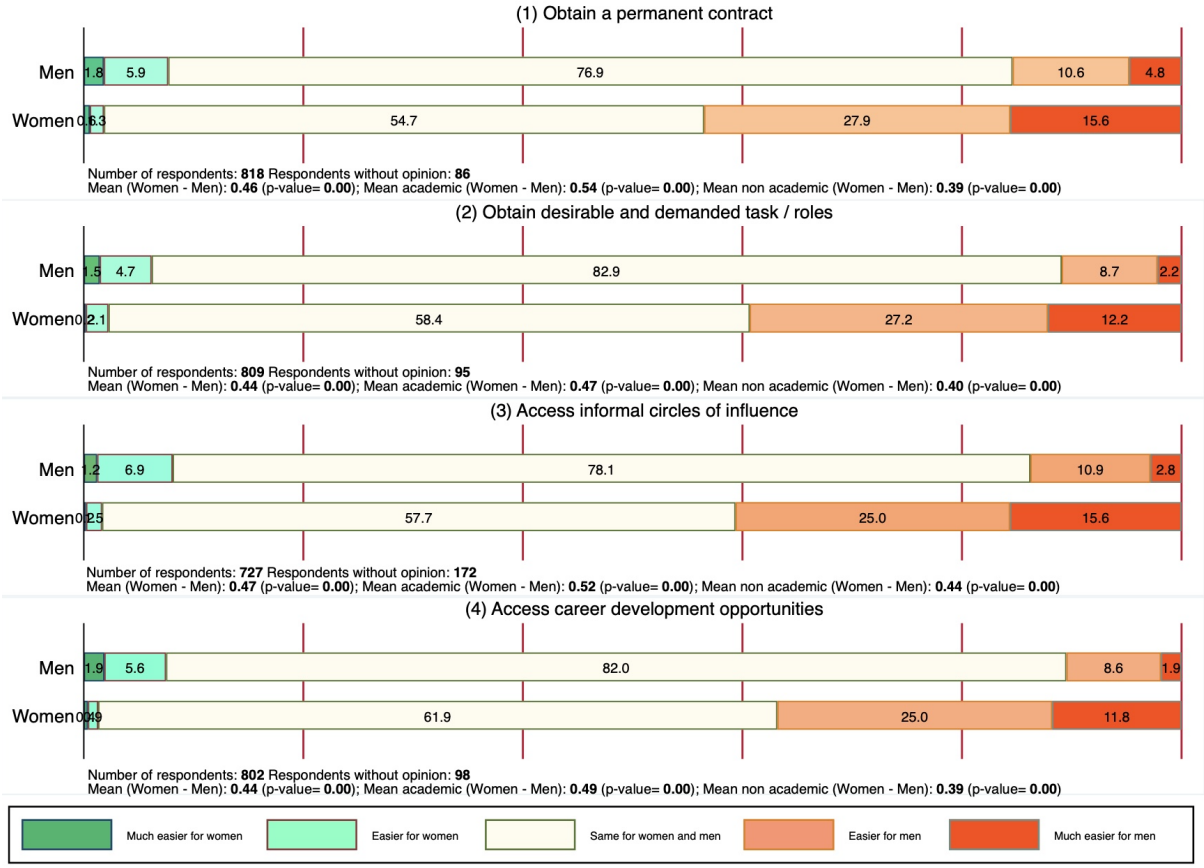

Figure 2: "In your workplace, it is easier for a woman or a man to:…" (% of respondents)

The most noticeable gender differences are in replies shown in Figure 2, where mean scores for women range between 3.47 (*SD* = 0.72) in Panel 4, and 3.57 (*SD* = 0.78) in Panel 1. Moreover, gender differences are statistically different from zero (*p*-value = 0.00) for both academics and non-academics for all evaluations in Figure 2. The

distribution of the answers is striking: man respondents mostly (about 80 percent) rated the allocation of these resources as "the same for men and women", with mean scores between 3.03 (*SD = 0.54)* and 3.11 (*SD = 0.65*), while at least 36 percent of women perceived that it is easier or much easier for men to obtain a permanent contract or desirable tasks, access informal circles of influence or career development opportunities.

The highest level of gender disagreement is reached in correspondence of different items for academics and non-academics. For academics, the biggest difference in scores is in the possibility of obtaining a permanent contract (women: *M* = 3.68, *SD* = 0.80; men: *M* = 3.14, *SD* = 0.60; *p*-value = 0.00); while for non-academics, it lies in the opportunity of accessing informal circles of influence (women: *M* = 3.45, *SD* = 0.75; men: *M* = 3.01, *SD* = 0.69; *p*-value = 0.00).

Distribution of responses by gender where responses ranged from 1 = "Much easier for women" to 5 ="Much easier for men". The neutral value is 3 = "Same for women and men". Statistics include: no. of respondents, no. of respondents without an opinion, mean difference of scores, mean difference of scores of academics and non-academics, and their corresponding *p*-values.

In Figure 3, most of the men (about 90 percent) perceived that office spaces, wage bonuses, job positions or promotions, are obtained by men and women with similar ease, with scores ranging from *M* = 2.99 (*SD* = 0.37) to *M* = 3.03 (*SD* = 0.45). However, a larger proportion of women respondents (from 13 to 26 percent) felt that most of these resources are more easily allocated to men, with mean scores from *M* = 3.16 (*SD* = 0.50) to *M* = 3.32 (*SD* = 0.65). Although these differences were subtle, they were statistically significant, with a *p*-value < 0.10 for all of the items individually, and for both academic and administrative staff.

Figure 3: "In your workplace, it is easier for a woman or a man to:…" (% of respondents)

The highest gender difference among researchers is found in the possibility of being recruited for a job (women: *M* = 3.38, *SD* = 0.67; men: *M* = 3.00, *SD* = 0.49; *p*-value = 0.00); while non-academic men and women disagree significantly on the possibility of obtaining a wage bonus (women: *M* = 3.30, *SD* = 0.60; men: *M* = 2.98, *SD* = 0.44; *p*-value = 0.00).

Distribution of responses by gender where responses ranged from 1 = "Much easier for women" to 5 ="Much easier for men". The neutral value is 3 = "Same for women and men". Statistics include: no. of respondents, no. of respondents without an opinion, mean difference of scores, mean difference of scores of academics and non-academics, and their corresponding *p*-values.

Figure 4 does not show any significant change in results. Declining teaching and/or administrative duties, and being chosen for representative roles are perceived easier or much easier for men by women, and gender differences are significantly different from zero. Once again, across all the items, the response distribution is shifted between women and men. The percentage of women that perceived that it is easier or much easier for a man to get these resources ranged between 5 and 32 percent, in contrast to a smaller fraction of men with similar opinions, between 3 and 9 percent. As in the above figures, the majority of men, between 85 and 94 percent of them, perceived that the allocation of resources is distributed equally.

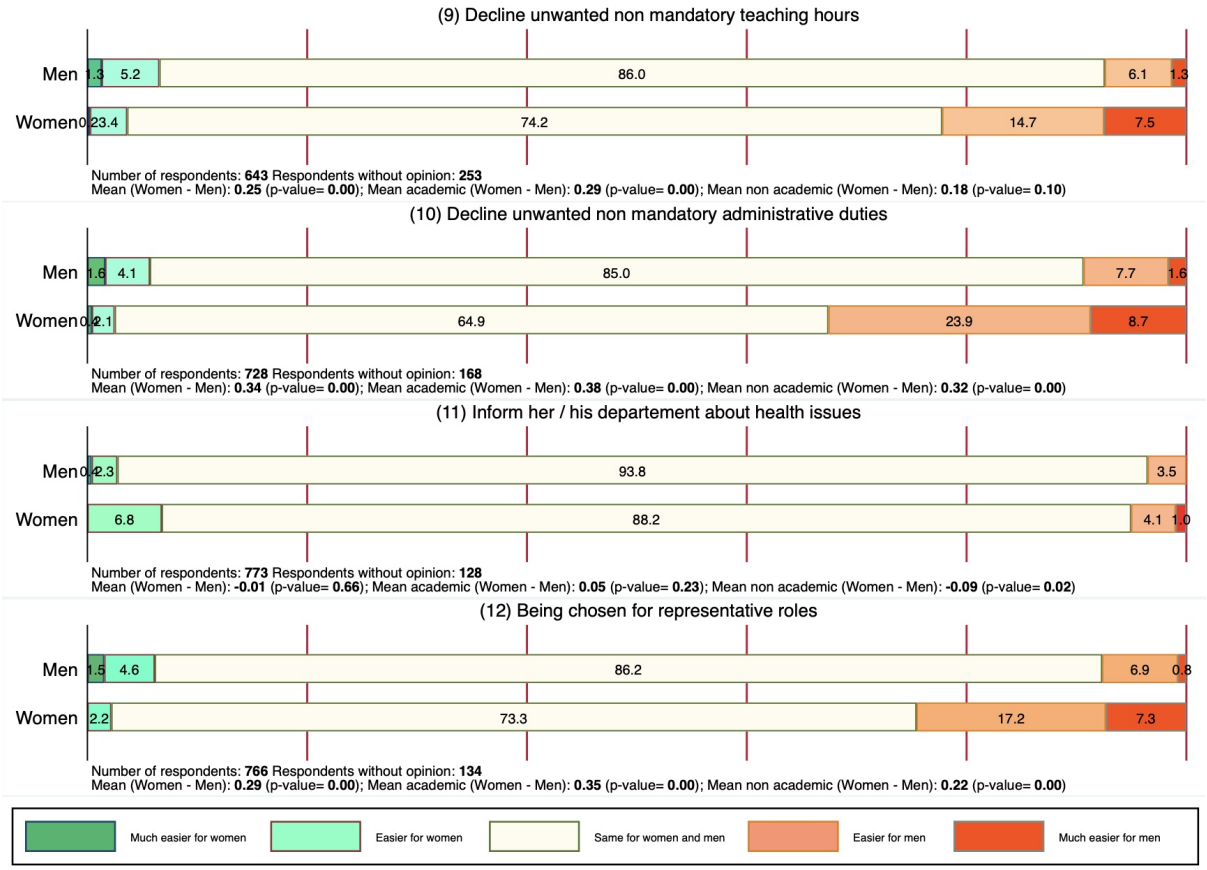

Figure 4: "In your workplace, it is easier for a woman or a man to:…" (% of respondents)

Academic and non-academic women and men reported the highest difference in scores when asked about the possibility of declining unwanted, non-mandatory administrative duties (academic women: $M = 3.40$, $SD = 0.71$; men: $M = 3.02$, $SD = 0.47$; p-value = 0.00) (non-academic women: $M = 3.36$, $SD = 0.67$; men: $M = 3.04$, $SD = 0.56$; p-value = 0.00). Academics also reported a similar high difference in score on the possibility of being chosen for representative roles (women: $M = 3.37$, $SD = 0.68$; men: $M = 3.02$, $SD = 0.46$; p-value = 0.00). Both academics and non-academics perceived that women and men can communicate about health issues with a similar ease.

Altogether, gender differences were observed for the allocation of all the items, and women perceived that these are more easily allocated to men while men did not perceive a biased distribution to the same extent. This conclusion is valid for both academics and non-academics, even though the highest gender disagreements concern different items. Our results are consistent with previous surveys developed in UK (ASSET 2016) and in Spain (Garcia-Gonzalez et al, 2019), and add new evidence about non-academic staff. Male researchers in both the UK and Spain perceived greater gender equality in their departments compared to female researchers.

Distribution of responses by gender where responses ranged from 1 = "Much easier for women" to 5 ="Much easier for men". The neutral value is 3 = "Same for women and men". Statistics include. no. of respondents, no. of respondents without an opinion, mean difference of scores, mean difference of scores of academics and non-academics, and their corresponding *p*-values.

4. Conclusions

The present study assesses gender differences in burnout syndrome and perception of gender equality in allocations of tasks and resources. It documents the responses to a survey that has been submitted to both academics and non-academics working in institutions belonging to the LeTSGEPs project, prior to the implementation of gender equality plans. The main objective of the survey was to identify gender biases, and establish the actions to be included in the plans. The literature has shown the importance of increasing gender stereotype awareness through training sessions to affect perceptions (Pritlove et al, 2019).

The results provide clear evidence that women feel a higher level of stress related to work than men do, even if gender differences are not always statistically different from zero. Scores of burnout are significantly higher for academic than non-academic staff, regardless of gender. They may have been exacerbated by the Covid crisis, but they are in line with previous literature on burnout syndrome.

Our results also show that while women perceive greater gender inequality than men do in the allocation of tasks and resources, men perceive equal gender treatment in their departments and offices. These gender differences in perception are found in answers of both academics and non-academics.

Future developments of this research should focus on the interaction between gender and departments or research fields. It will also be important to enlarge the analysis to demographic characteristics of respondents to account for their observable differences, and measure the impact of, for example, age, children, and marital status. The identification of the source of bias through data analysis is key to bring into effective actions (Axt et al, 2019), and determine their primary recipients (Coe et al, 2019).

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Examining the Effect of Gender Leadership and Workforce Equality on Thematic Mutual Funds Financial Performance

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Abstract: This study examines the relationship between gender equality scores for leadership and workforce dimension and financial performance of 554 US thematic mutual funds and 2,140 US conventional mutual funds investing globally or in the United States stock markets from January 2015 to May 2021. To this end, we implement the new Fama and French six-factor model and the Student's t-parametric tests for the independent samples. Our results indicate that, in general, gender equality for leadership and workforce does not affect the financial performance of mutual funds focused on one sector related to sustainable development goals that invest in the United States market. However, we find that infrastructure mutual funds with higher levels of gender leadership and workforce equality that invest in the global market perform better than their counterparts with lower levels of gender equality. On the contrary, healthcare, water, information technology and gold and precious metals mutual funds with higher levels of gender equality for leadership and workforce dimension that invest in the global market underperform their counterparts with lower levels of gender leadership and workforce equality. Similarly, we find a negative relationship between gender equality level for leadership and workforce dimension and the financial performance of mutual funds diversified across sectors such as conventional and ethical mutual funds investing globally or in the United States market.

Keywords: thematic mutual funds, financial performance, sustainable development goals, gender equality

1. Introduction

Achieving gender equality and women's empowerment across all sectors related to United Nations Sustainable Development Goals favours an economic growth respectful with the environment (UN Women, 2021; Martí-Ballester, 2020a). This is a leading priority for some investors who demand financial products which promote gender equality and advance the socioeconomic standing of women and girls. Mutual funds could satisfy the preferences of these investors pressing firms in which they invest to adopt gender equality policies if mutual fund managers are able to fulfil their fiduciary duties with prudence.

Previous literature has examined the financial performance of mutual funds focused on one specific sector related to sustainable development goals such as energy (Ibikunle and Steffen, 2017; Reboredo et al., 2017; Martí-Ballester, 2019a, 2019b; Naqvi et al., 2021), water (Álvarez and Rodríguez, 2015; Ibikunle and Martí-Ballester, 2020), healthcare (Martí-Ballester, 2020b), green (Climent and Soriano, 2011; Silva and Cortez, 2016) or social (Ielasi et al., 2019; Lesser et al., 2016; Badia et al., 2021), reaching different findings, indicating that thematic mutual fund financial performance could be led by sector in which mutual funds invest (Martí-Ballester, 2021; Jin and Han, 2018). However, the effect that gender equality level achieved by firms in which mutual funds invest has on the financial performance of their portfolios has received little attention despite the importance of ending all discrimination against women and girls have to economic growth and sustainable development.

Specifically, Chapple and Humphrey (2014) compare the financial performance of portfolios integrated by Australian firms with gender-diverse boards to that of portfolios composed of firms without gender diversity on boards, and find a positive correlation between diversity and performance of portfolios investing only in basic materials or consumer goods industries but no evidence of this relationship for portfolios investing in other industries. Extending this research line, this study examines the relationship between gender leadership and workforce equality and fund financial performance by sector related to one sustainable development goal for the United States market.

2. Literature review and hypothesis development

The board of directors plays an important role in corporate governance process. They are responsible for supervising firm management to safeguard the interests of shareholders, provide advice and counsel to managers, monitor legal compliance and link corporations to the external environment. The fulfilment of these duties could be influenced by the participation of women on the corporate board, allowing firms to enhance their organizational efficiency, legitimacy and reputation, and consequently, to improve their financial performance according to several theoretical arguments (Fama and Jensen, 1983; Carter et al., 2010; Provasi

and Harasheh, 2021). According to agency theory, board gender diversity allows firms to align the interest of managers and shareholders because women provide new perspectives on strategy formulation and problem solving, are less tolerant of management opportunistic behaviour that increases board independence, helps correct informational biases and enhances firm legitimacy. This would lessen the costs related to agency problems improving the corporate financial performance (Fama and Jensen, 1983; Reguera-Alvarado et al., 2017).

Complementing this argument, the resource dependence theory assumes gender diversity on the director boards, and top management teams provides a strategic intangible resource because of the synergy generated by the interaction of women and men directors and managers, both genders differing in the style of leadership and the organizational priorities. Women tend to have a more creative, innovative and transparent strategic vision with business policies that take the interest of stakeholders into account, which allows firms to generate a competitive advantage focused on its relationship with the internal and external environment. In the internal environment, women directors on boards could improve the promotion and career development opportunities of women employees by hiring more women managers with whom there is better communication and mentoring (Matsa and Miller, 2011; Hallden et al., 2018).

In the external environment, women directors on boards maintain good relations with their women customers which increases a firm's ability to penetrate markets with a high proportion of women's final consumers (Brammer et al., 2007; Liu et al., 2014). This suggests that gender diversity on board of directors is higher in consumer-oriented sectors, while women directors are underrepresented in producer-oriented sectors such as resources, engineering or business services sectors (Brammer et al., 2007). Additionally, board gender diversity allows firms to expand its communication channels to other external stakeholders, as well as customers, improving their access to financial resources, human capital, technology, and relevant information, which enhances corporate financial performance (Pfeffer and Salancik, 2003; Assenga et al., 2018; Karavitis et al., 2021). Consistent with this arguments, stakeholder theory assumes that the representation of women on boards and top management teams ensures the incorporation of minority stakeholders' interests into the business management. This together with gender diversity in the workforce could signal to the market that the firm is committed to social responsibility issues which affect its stakeholders, thus improving the firm's image and consequently its corporate financial performance (Reguera-Alvarado et al., 2017; Freeman, 1984).

However, previous empirical evidence examining the relationship between gender diversity on the board, top management teams or workforce and corporate financial performance have produced mixed results (Post and Bryon, 2015). Concretely, Conyon and He (2017), Brahma et al. (2021), Maji and Saha (2021), Francoeur et al. (2008), among others, show a positive effect of gender diversity on firm financial performance while other studies such as Fernández-Temprano and Tejerina-Gaite (2020), Matsa and Miller (2013), Ismail and Manaf (2016), Creary et al. (2019), among others, find that gender diversity on firms does not guarantee economic and organizational effectiveness. These contradictory findings could be due to methodological issues or differences in time periods but could also be attributed to differences in industries and institutional context (Kiliç and Kuzey, 2016).

Mutual funds could benefit from investing in firms with high gender equality score for leadership and workforce dimension belonging to specific industries and/or countries. Given that thematic mutual funds in our sample invest in firms located in global or United Stated geographical markets belonging to one specific sector related to sustainable development goals, we hypothesize that:

> *H1a: The effect of gender equality score for leadership and workforce dimension on fund financial performance vary across economic sector.*
>
> *H1b: The effect of gender equality score for leadership and workforce dimension on fund financial performance vary across geographical markets*

3. Research method

In this section, we describe the data collection process of thematic mutual funds related to sustainable development goals, the market benchmarks used, and the methodology to check the hypotheses of this study.

3.1 Sample

The sample includes 2,694 equity mutual funds domiciled in the United States, of which 554 belongs to thematic mutual funds and 2,140 to conventional mutual funds investing globally or in the United States market from January 2015 to May 2021 obtained from the As You Sow database. As You Sow, was founded in 1992 as a non-profit foundation, being its main objective to promote corporate social responsibility (ESG) for achieving a safe, just and sustainable world for all by means of shareholder advocacy, coalition building and innovative legal strategies as described in Neville et al. (2019). The adoption of these strategies involves six connected program areas: climate-safe future, food that is safe to eat, plastic-free oceans, invest your values, a just world for all and slavery-free supply chain.

From As You Sow database we select open-end mutual funds with data for the gender balance in leadership and workforce (GBLW) dimension (whose items are described in Table 1), collecting the mutual fund inception date, and the existence of sustainable mandates and stickers.

Table 1: Gender items description

Gender dimension	Items
Gender balance in leadership and workforce (GBLW)	1. Board directors: percentage of male and female on the board directors. 2. Executives: percentage of male and female on Executives. 3. Senior Management: percentage of male and female on senior managers. 4. Workforce: the percentage of male and female on total employees. 5. Promotion and Career Development Opportunities: ratio of each gender in Senior Management compared to ratio of each gender in the Workforce.

Source: As You Sow (https://genderequalityfunds.org)

These data are complemented with financial information obtained from the Thomson Reuters Datastream database. Datastream is a worldwide leading database of financial information for mutual funds that provide historical series of total net assets, total return index, total expenses ratio as well as other supporting and operating data such as asset type, geographical scope, Lipper Global Classification obtained from Refinitiv Lipper for over 30 years. From the Datastream database we obtain the daily total return index in dollars -which assumes that all cash distributions are reinvested- from 1 January 2015 to 3 May 2021, monthly total expenses ratio and total net assets in dollars from January 2015 to May 2021, geographical scope, asset type and Lipper Global Classification, using the sticker code provided by As You Sow.

We then select equity mutual funds diversified across sectors and those focused on one specific sector related to sustainable development goal (SDG) such as gold and precious metals, healthcare, information technology, alternative energy, energy, infrastructure, natural resources, water mutual funds investing globally or in the United States markets. Conventional mutual funds with sustainable mandates are classified as ethical mutual funds. Mutual funds with total return index data of less than 24 months were eliminated (Ibikunle and Marti-Ballester, 2020). Our final sample includes 2,694 equity mutual funds domiciled in the United States, of which 554 are thematic mutual funds and 2,140 are conventional mutual funds investing globally or in the United States market from January 2015 to May 2021, as indicated in Table 2, given that Sustainable Development Goals were set up in 2015 by United Nations.

We also collected the daily total return index of the S&P Global 1200 index, S&P 500 index, S&P 500 Metals and Mining index, S&P Global Natural Resources, Metals and Mining index, S&P 600 energy index, S&P Global 1200 Healthcare index, S&P 500 Healthcare index, S&P Global 1200 Information Technology index, S&P 500 Information Technology index, S&P Global Clean Energy index, S&P Global Infrastructure index, S&P Global Natural Resources index, S&P North America Natural Resources index, S&P Global Water index, S&P 500 ESG index and S&P Global 1200 ESG index from the Datastream database as in Nofsinger and Varma (2014). Information related to the daily one-month treasury bill, size, book-to-market, momentum, operating profitability and investment factors was collected from Kenneth French's website (daily version for global markets and US markets).

Table 2: Summary statistics on thematic mutual funds for the final sample: 2015-2021

Sector	Number of funds	Annual net return	TNA ($ Millions)	TER (%)	AGE	GBLW
Global						
Healthcare (SDG3)	38	0.09	1,542.34	1.18	27.26	20.08
Water (SDG6)	8	0.10	129.50	1.43	11.59	17.75
Alternative energy (SDG7)	5	0.11	22.37	1.80	14.08	16.80
Information technology (SDG9)	35	0.21	490.78	1.27	21.85	18.74
Infrastructure (SDG9)	35	0.06	68.72	1.32	8.46	20.94
Ethical (SDG12)	53	0.12	70.99	1.15	14.66	20.23
Natural resources (SDG15)	41	-0.01	435.48	1.35	25.97	18.78
Gold and precious metals (SDG15)	23	0.12	199.96	1.13	36.83	15.91
Conventional	340	0.11	951.33	1.13	22.88	20.48
United States						
Healthcare (SDG3)	39	0.11	1,261.85	1.17	20.59	18.74
Energy (SDG7)	30	-0.08	250.10	1.52	9.21	9.43
Information technology (SDG9)	79	0.20	533.28	1.28	25.47	19.04
Ethical (SDG12)	134	0.13	285.49	1.04	20.03	20.93
Gold and precious metals (SDG15)	9	0.09	201.55	1.20	30.02	16.44
Natural resources (SDG15)	25	-0.07	224.46	1.26	26.39	18.32
Conventional	1800	0.12	1,998.39	0.95	28.93	20.50

Source: Datastream, As You Sow

3.2 Methodology

To determine whether gender equality is associated with the financial performance of mutual funds specialized in sectors related to sustainable development goals, we adopt an analysis by levels, grouping mutual funds according to geographical area in which mutual fund investment occurs, economic sector in which mutual fund investment occurs and gender equality score. For the first level, we group the mutual fund sample into two groups depending on the geographical area in which mutual funds invest. This allows us to distinguish between mutual funds investing globally and those investing in the United States markets. Mutual funds in each group are subsequently grouped by the economic sector in which mutual fund invests to obtain the following subgroups: gold and precious metals, healthcare, information technology, alternative energy, energy, infrastructure, natural resources and water subgroups related to sustainable development goals and the conventional subgroup integrated by mutual funds diversified across sectors. Each subgroup comprised a second level.

For each mutual fund in each subgroup we obtain its financial performance using market benchmarks focused on the economic sectors and geographical areas in which mutual fund invests. To assess mutual fund financial performance we adopt the 6-factor model (Fama and French, 2018) as follows:

$$R_{f,t} = D_{sector} D_{geographical} [\alpha_f + \beta_f MK_t + \gamma_f SMB_t + \delta_f HML_t + \theta_f RMW_t + \lambda_f CMA_t + \omega_f MOM_t + \varepsilon_{f,t}] \quad [1]$$

where $R_{f,t}$ represents the excess return over the risk-free rate of portfolio f at time t; D_{sector} is a dummy variable that takes value of one if the fund belongs to the indicated sector (conventional, gold and precious metals, healthcare, information technology, alternative energy, energy, infrastructure, natural resources, water sectors) and zero otherwise; $D_{geographical}$ is a dummy variable that takes value of one if the fund invest in the indicated market (globally or in United States market) and 0 otherwise;α_f denotes the annualized financial performance measure for fund f in period t; MK_t is the market excess return at time t which corresponds to a conventional

equity market index focused on global or US market or the corresponding sector index focused on US market or global market; SMB_t, HML_t, RMW_t, CMA_t and MOM_t represents the size, value, profitability, investment and momentum factors, respectively, for global markets or US market; $\varepsilon_{f,t}$ is the error term; β, γ, δ, θ, λ and ω are the factor loadings of the risk factors, respectively. Standard errors were estimated using Newey and West's (1987) method.

Then, funds in each subgroup are sorted according to their gender equality scores whose values oscillates between 0 to 40 points for the gender balance in leadership and workforce dimension. A fund is classified as a high category for the gender equality dimension when its value exceeds the average gender balance in leadership and workforce score for its subgroup; while a fund is classified as a low category for the gender equality dimension when its value is similar or below the average gender equality score for its subgroup. These high and low categories constituted the third level.

The financial performance of each mutual fund subgroup with high gender equality scores is compared with that of its counterpart with low gender equality scores by implementing Student's t-test for the independent samples.

4. Results

4.1 Results for mutual funds investing in global market

The financial performance of mutual funds focused on United Nations' sustainable development goals that invest in global markets is evaluated using the new Fama and French six-factor model (Fama and French, 2018) and grouped according their level of gender equality score. Table 3 presents the descriptive statistics of healthcare, water, alternative energy, information technology, infrastructure, ethical, natural resources, gold and precious metals and conventional mutual funds. As observed the healthcare, water, ethical, natural resources and conventional mutual fund categories have a negative mean risk-adjusted return, while alternative energy, information technology, infrastructure and gold and precious metals mutual fund categories have a positive mean risk-adjusted return. The mutual fund category specialized in the gold and precious metals sector has the largest mean risk-adjusted return (3.03%), with all alphas being similar to the market benchmark, whereas the natural resources sector-related mutual fund category has the lowest (5.19%), with alphas being significantly negative for 4.88% and similar to market benchmark for 95.12 of the natural resources mutual funds in our sample. For the information technology and conventional fund categories, the alpha coefficient is significantly positive for 12.90 percent of information technology funds and 2.94 percent of conventional funds, respectively, while none is significantly negative for the information technology fund category and the 20.29 percent is significantly negative for the conventional fund category.

Comparing the financial performance achieved by mutual funds with the highest levels of gender equality score to those with the lowest levels of gender equality score in each mutual fund category, we find that mutual funds with high levels of gender equality score reach similar risk-adjusted return, on average, as the mutual funds with low levels of gender equality score for alternative energy and natural resources fund categories. However, infrastructure mutual funds with high levels of gender equality score significantly outperform those with low levels of gender equality score. On the contrary, healthcare, water, information technology, ethical, gold and precious metals and conventional mutual funds with high levels of gender equality score underperform those with low levels of gender equality score. This finding support our hypothesis H1a.

Table 3: Financial performance of mutual funds investing in global geographical markets according to gender balance in leadership and workforce score from 2015-2021

Category	Annualized performance				R^2	Number of estimates +/0/-	Differences High-Low
	Mean	Standard deviation	Max	Min			
Healthcare (SDG3)							
High	-0.0193	0.0087	-0.0029	-0.0338	0.9151	0/11/2	-4.124***
Low	-0.0030	0.0157	0.0125	-0.0370	0.8829	0/24/1	
Full	-0.0086	0.0157	0.0125	-0.0370	0.8939	0/35/3	

Category	Annualized performance				R^2	Number of estimates +/0/-	Differences High-Low
	Mean	Standard deviation	Max	Min			
Water (SDG6)							
High	-0.0297	0.0096	-0.0207	-0.0423	0.8822	0/4/0	-2.719**
Low	-0.0159	0.0033	-0.0138	-0.0208	0.9200	0/4/0	
Full	-0.0228	0.0099	-0.0138	-0.0423	0.9011	0/8/0	
Alternative energy (SDG7)							
High	0.0103	0.0059	0.0152	0.0038	0.7812	0/3/0	1.989
Low	-0.0119	0.0151	-0.0013	-0.0226	0.7567	0/2/0	
Full	0.0014	0.0149	0.0152	-0.0226	0.7714	0/5/0	
Information technology (SDG9)							
High	-0.0092	0.0244	0.0187	-0.0413	0.9208	0/18/0	-4.256***
Low	0.0217	0.0182	0.0451	-0.0042	0.9097	4/13/0	
Full	0.0058	0.0265	0.0451	-0.0413	0.9154	4/31/0	
Infrastructure (SDG9)							
High	0.0107	0.0106	0.0345	-0.0049	0.8752	0/19/0	2.439**
Low	0.0001	0.0151	0.0287	-0.0147	0.8751	0/16/0	
Full	0.0059	0.0137	0.0345	-0.0147	0.8752	0/35/0	
Ethical (SDG12)							
High	-0.0263	0.0242	0.0117	-0.0693	0.9235	0/19/8	-5.634***
Low	0.0027	0.0112	0.0196	-0.0267	0.9049	0/26/0	
Full	-0.0121	0.0238	0.0196	-0.0693	0.9144	0/45/8	
Natural resources (SDG15)							
High	-0.0459	0.0317	-0.0076	-0.0877	0.8126	0/20/0	0.135
Low	-0.0577	0.0228	-0.0242	-0.0940	0.7270	0/19/2	
Full	-0.0519	0.0278	-0.0076	-0.0940	0.7687	0/39/2	
Gold and precious metals (SDG15)							
High	0.0200	0.0127	0.0393	0.0040	0.4043	0/12/0	-2.157*
Low	0.0415	0.0308	0.1068	-0.0041	0.4268	0/11/0	
Full	0.0303	0.0252	0.1068	-0.0041	0.4151	0/23/0	
Conventional							
High	-0.0144	0.0188	0.0539	-0.0567	0.9255	4/116/41	0.706***
Low	-0.0034	0.0199	0.0690	-0.0375	0.9292	6/145/28	
Full	-0.0086	0.0201	0.0690	-0.0567	0.9274	10/261/69	

4.2 Results for mutual funds investing in United States stock markets

The financial performance of mutual funds focused on United Nations' sustainable development goals that invest in United States stock markets is evaluated using the new Fama and French six-factor model (Fama and French, 2018) and grouped according their level of gender equality score. Table 4 presents the descriptive statistics of healthcare, energy, information technology, ethical, natural resources, gold and precious metals and conventional mutual funds. As observed the healthcare, ethical, natural resources and conventional mutual fund categories have a negative mean risk-adjusted return, while energy, information technology and gold and precious metals mutual fund categories have a positive mean risk-adjusted return. The mutual fund category specialized in the energy sector has the largest mean risk-adjusted return (3.66%), with all alphas being similar to the market benchmark, whereas the natural resources sector-related mutual fund category has the lowest (6.11%), with alphas being significantly negative for 60.00 percent and similar to market benchmark for 36.00 percent of the natural resources mutual funds in our sample. The alpha coefficient is significantly positive for

2.56 percent of healthcare mutual funds, for 3.80 percent of information technology funds, for 2.99 percent of ethical funds, for 4 percent of natural resources funds and for 1.94 percent of conventional funds, while the alpha coefficient is significantly negative for 20.51 percent of healthcare funds, for 7.60 percent of information technology funds, for 17.91 percent of ethical funds, for 60 percent of natural resources funds and for 23.94 percent of conventional mutual funds.

Comparing the financial performance achieved by mutual funds with the highest levels of gender equality score to those with the lowest levels of gender equality score in each mutual fund category, we find that mutual funds with high levels of gender equality score reach similar risk-adjusted return, on average, as the mutual funds with low levels of gender equality score for healthcare, energy, information technology, gold and precious metals and natural resources fund categories. However, ethical and conventional mutual funds with high levels of gender equality score underperform those with low levels of gender equality score. This findings differ those achieved for US mutual funds investing in global markets, supporting our hypothesis H1b.

Table 4: Financial performance of mutual funds investing in US geographical markets according to gender balance in leadership and workforce score from 2015-2021

Category	Annualized performance				R^2	Number of estimates +/0/-	Differences High-Low
	Mean	Standard deviation	Max	Min			
Healthcare (SDG3)							
High	-0.0092	0.0494	0.1167	-0.0859	0.8777	0/13/4	1.052
Low	-0.0246	0.0418	0.0564	-0.1018	0.8582	1/17/4	
Full	-0.0179	0.0453	0.1167	-0.1018	0.8667	1/30/8	
Energy (SDG7)							
High	0.0438	0.0510	0.0701	-0.1154	0.5477	0/12/0	0.837
Low	0.0319	0.0271	0.0665	-0.0280	0.5844	0/18/0	
Full	0.0366	0.0381	0.0701	-0.1154	0.5697	0/30/0	
Information technology (SDG9)							
High	0.0078	0.1069	0.6252	-0.0915	0.8675	2/34/6	-0.134
Low	0.0106	0.0670	0.3893	-0.0438	0.8865	1/36/0	
Full	0.0091	0.0899	0.6252	-0.0915	0.8764	3/70/6	
Ethical (SDG12)							
High	-0.0100	0.0194	0.0784	-0.0784	0.9036	2/66/24	-2.453**
Low	-0.0012	0.0190	0.0514	-0.0285	0.9338	2/40/0	
Full	-0.0072	0.0197	0.0784	-0.0784	0.9131	4/106/24	
Gold and precious metals (SDG15)							
High	0.0141	0.0050	0.0193	0.0073	0.3897	0/4/0	-0.272
Low	0.0149	0.0041	0.0186	0.0091	0.4038	0/5/0	
Full	0.0145	0.0042	0.0193	0.0073	0.3975	0/9/0	
Natural resources (SDG15)							
High	-0.0608	0.0235	-0.0350	-0.0849	0.9477	0/5/6	0.025
Low	-0.0613	0.0684	0.0519	-0.1336	0.9063	1/4/9	
Full	-0.0611	0.0526	0.0519	-0.1336	0.9245	1/9/15	
Conventional							
High	-0.0112	0.0223	0.1683	-0.5017	0.9667	4/788/303	-4.477***
Low	-0.0047	0.0336	0.2283	-0.1991	0.9320	31/546/128	
Full	-0.0086	0.0274	0.2283	-0.5017	0.9531	35/1334/431	

5. Conclusions

By examining a sample of US mutual funds investing in specialised sectors related to UN sustainable development goals across countries or in the United States markets, this study shows that the integration of gender equality criteria to portfolios of mutual funds focused on one specific sectors related to sustainable development goals, which invest in US stock markets, does not imply financial cost for investors. However, investors integrating gender criteria in their investments in ethical and conventional funds obtain lower financial performance than those whose investment preferences are only focused on ethical criteria or on diversified portfolios across countries and industries.

This study also shows that the integration of gender equality criteria in portfolios of US global water, alternative energy, infrastructure, natural resources, and gold and precious metals funds does not imply financial cost for investors.

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Fostering Participation in Gender Budgeting: A Proposal for an Online System to Enhance Citizens' Engagement in Gender-Responsive Budgeting

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Abstract: A controversial issue in the public management literature is the role attributed to women. Analyzing the existing literature, few works have been written about how the presence of women is valued in the public sector. From this analysis, several discriminatory elements are still present, and gender equality seems to be far away. However, this objective must continue to be pursued, also considering the relevance given to the gender equality issue by the United Nations in the Sustainable Development Goals. To achieve this goal, it is necessary to implement political, economic and societal legislation, programs and policies to minimize the differences between men and women. In this perspective, Gender Budgeting (GB) could be an interesting field of research. It consists of a systematic review about how women benefit from public sector expenditures, an adjustment of budgets to ensure equality of access to public sector expenditures, enhancing productive capacity and meeting social needs. However, GB could be adopted differently and could produce several results. In particular, the implementation of GB as a participatory tool is still nowadays a challenge and could be fascinating to analyze, considering the various benefits that a participatory approach could imply. One of the main reasons for the lack of direct citizens involvement in GB is that it was initially developed from a macro-perspective at the national budget. On the other hand, other participatory tools, such as the participatory budget, originate at the local level. Therefore, examining the existing literature and focusing on two different processes, but with some overlapping characteristics elements, namely participatory budgeting and gender budgeting, the present research aims to create a participatory GB framework, investigating the insertion of a participatory perspective in the process, specifically women's engagement, not neglecting the relevance of digitalization to this end.

Keywords: gender equality, budget cycle, participatory governance, gender responsive budgeting, women's empowerment

1. Introduction

In recent years, several routes have been entered to make the process of determining and reporting public expenditure more participatory to meet citizens' needs more equitably and inclusively (Ebdon & Franklin, 2006). Public administrations could adopt a wide range of tools, possibilities and methods in formulating and implementing their public policies, aiming to increase the degree of citizens' engagement (Sintomer e al., 2013). This search for widespread participation has allowed the contribution of new ideas and soft skills to determine a more effective allocation of public resources from both financial and social points of view (Verba & Nie, 1987). Overcoming the New Public Management ideals (Hood, 1991), new policies must go beyond the achievement of the renowned three "Es" (efficiency, effectiveness and economy) (Rhodes, 1996), also allowing for the achievement of other objectives, following the New Public Governance paradigm (Osborne, 2006). However, despite the efforts made by the public administrations, the consolidation of these participatory practices did not prove to be sufficient to achieve equal access and contribution by both genders, as women recorded lower inclusion scores in participatory processes (Allegretti & Falanga, 2016). In addition, examining the existing literature on the public sector, gender issues are still not solved, and several discriminatory events are still present (Paoloni et al., 2021). This has led some public administrations, albeit in a fragmented and non-organic way, to adopt Gender Budgeting (GB), to incorporate the gender perspective within the participatory budget, to hold governments accountable for their policies and actions in the field of gender equality.

However, although the use of GB is growing due to the benefits already mentioned, few studies have currently focused on gender budgeting in a more participatory format (Steccolini, 2019). Therefore, further attention needs to be paid to it. Within this scenario, it is interesting to note that, also because of the Covid-19 pandemic, governments, at both national and international levels, are increasing available resources for the adoption of recovery plans, in which digitization is seen as one of the pivotal pillars and a driving force for the recovery itself. Thus, it seems helpful to investigate, through the identification of new application models, which could be the

most significant contribution given by the digital transformation tools to the process of determining and reporting public spending, to make public budgeting more gender-inclusive and participatory.

To this end, based on a literature review, a proper exploration of the state of the art of participatory budgeting is in-depth illustrated, also considering the relevance of digital tools in citizens' participation (Section 2). Then, the variables of participatory gender budgeting to contrast the existing gender gap are explored (Section 3). Finally, given the determinants, a proposal for a new participatory gender budgeting model is presented (Section 4), and conclusions are drawn (Section 5).

2. Participatory budgeting and digitalization

Contemporary governments are facing various problems related to their relationship with citizens (Fung & Wright, 2003). Over the last decades, people have stopped believing that the authorities represent their interests. They are sceptical about the effectiveness and fairness of the politicians' activities (Swaner, 2017); therefore, the trust in institutions has drastically dropped. Public administrations have to overcome the New Public Management compulsive search for efficiency, coming back to citizens' needs and accomplishing people's expectations (Christensen & Lægreid, 2011). In this line, it becomes strategic to undertake and fortify paths of the population's engagement and participation (Lodewijckx, 2019), starting from local institutions, the government level closest to citizens. This led to the determination of the so-called participatory governance in which citizens are involved in public choices under the communicative, visionary and decision-making dimension through more listening, negotiation, consultation and discussion activities (Vigoda, 2002). Citizens recover from the initial disadvantage, strengthening their capacity to intervene and influence public choices, determining the model of Empowered Participatory Governance (Fung & Wright, 2003). This model has precisely the purpose - through the understanding of practical problems, participatory involvement and the application of practical solutions - to study the ways of reorganizing state institutions, trying to understand whether it is possible to stimulate democratic commitment in society and strengthen the bonds that are created. It aims to create institutions that can be more participatory and responsive by realizing the effective participation of citizens. Among the existing and different participatory tools, such as public debate, collaboration agreements, citizen sensing, petitions and referendums, participatory budget is of particular interest. Specifically, participatory budgeting (PB) has been an innovation in the budgeting processes since this instrument allows the citizenry to participate in resource allocation actively (Papadopulos & Warin, 2007; Bartocci, Grossi & Mauro, 2019; Mattei, Santolamazza & Grandis, 2022). Even if several PB formats could be set up (Sintomer e al., 2013), it usually allows identifying - *ex-ante* - the population's needs and proposals helpful in implementing citizens-responsive policies (Allegretti, 2010). The greater democracy and decisions' interactivity implied in PB has enhanced the public administration capacity to coordinate actors, social groups and institutions and manage common decisions discussed and defined collectively in fragmented and uncertain territories. For this reason, PB could be counted in the group of processes related to New Public Governance (Osborne, 2006) since it emphasizes the public administration's role in coordinating the plurality of interests of relevant stakeholders (Wiesel & Modell, 2014).

This continuous process of cooperation and adjustment between different and conflicting interests has led to the alternation of top-down, verticalized models, with policies imposed by governments on the communities, and bottom-up, coming from a plurality of diversified actors. As a result, PB has determined a more widespread and circular concept of power than pyramidal, centralized and self-referential. PB provides the opportunity to influence political decisions to all interested people, so-called stakeholders, on the basis of their capacities (Stortone & De Cindio, 2015). The plurality of institutional stakeholders (Clarkson, 2016) is experienced through a renewed dialogue and the sharing of guidelines such as sustainability, consensus, legitimacy, and related key dimensions (Cashore, 2002; Secco et al., 2010).

A relevant issue in this process is how to foster citizens' participation. In this context, digital tools could help overcome some of the difficulties related to PB, allowing the inclusion of more people and bringing other benefits (Sampaio & Peixoto, 2014; Falco & Kleinhans, 2018). Specifically, digitalizing PB may facilitate the process itself, influencing each stage, from how information is delivered to how people are identified, engaged and allowed to vote (Vydra & Klievink, 2019). Adopting digital tools in the PB could be fundamental in recreating a real public sphere, fostering discussion and collaboration among participants (Sønderskov, Rønning & Magnussen, 2021). However, digitalization must be well-managed to avoid all its negative effects, such as digital inequalities (Ragnedda & Muschert, 2018) or mere innovations that turn out to be smokescreen (Allegretti, 2012), not fostering citizens' engagement (Stortone & De Cindio, 2015). Among others, the use of interactive

platforms, the creation of an online place to debate, online voting and continuous monitoring could increase PB effectiveness (Sampaio & Peixoto, 2014).

3. Participatory gender budgeting

By allowing the direct participation of citizens in the allocation of public resources, PB increases the civic culture of the interested citizens, the generation of better-shared decisions given an appropriate level of discussion and information and the legitimacy of the choices (Sintomer et al., 2013; Bartocci, Grossi & Mauro, 2019). Therefore, considering the beneficial effects of the citizens' engagement in the budgeting process (Ebdon & Franklin, 2006), a PB that considers the gender element was studied and the overlaps between it and gender budgeting were explored in-depth (Ng, 2016).

Gender budgeting (GB) is a budgeting document that evaluates an administration's political, economic and financial choices with a gender mainstreaming view (United Nations, 1995). Gender mainstreaming consists of "the reorganization, improvement, development and evaluation of policy processes, aimed at incorporating a gender equity perspective in all policies at all levels and in all phases, by the actors normally involved in the policy-making process" (Council of Europe, 1998). It is both a principle to be integrated within all the sectors of public intervention and a process useful to understand the causes of the disparity between women and men in society, identifying the best strategies to counter this divergence. GB is probably the most relevant tool in pursuing gender equity since it consists of a "gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process" (Council of Europe, 2005: 10). Furthermore, it fosters the concept of gender equality in rights and duties between females and males, also in terms of equal treatment in accessing resources and opportunities (Klatzer et al., 2018; Pastore & Tommaso, 2020).

GB could be implemented in several ways and could produce various results (Klatzer et al., 2018; Pastore & Tommaso, 2020). Specifically, it could be set with different methodologies, namely *ex-ante*, concurrent and *ex-post* approaches (Rubin & Bartle, 2005). *Ex-ante* approaches are less spread and relate to assessing gender needs through gender-sensitive surveys or thanks to ideas and projects collected by focus groups, formulating the budget and determining the "binding budget" (Polzer, Nolte & Seiwald, 2021). Concurrent tools are used by public administrations when they consider a gender perspective during their resource allocation through programme-based budgeting or tracking gender spending (Polzer, Nolte & Seiwald, 2021). Finally, when GB is set up with an *ex-post* approach, monitoring, evaluation and impact analysis activities are carried out, understanding possible deviations and determining the new objectives of the budget cycle. This approach is also called gender auditing (Rubin & Bartle, 2005). The comprehensive gender budgeting approach incorporates all three stages of the budgeting process (Polzer, Nolte & Seiwald, 2021).

However, despite the international commitment, gender equality does not prove to have been yet achieved in any country; progress is slow and gender gaps still exist in work, wages, assistance and pensions. Therefore, more policies should be implemented in this view (Speeden, 2012) and, among them, rethinking GB in a more participatory lens could be a solution (Steccolini, 2019). This is what the international forces require, as the various objectives and sub-objectives of the UN 2030 agenda suggest (United Nations, 2015). Focusing on the sustainable goal number 5, it is stated that public administrations should implement processes aimed at "guaranteeing full participation of women and equal leadership opportunities at every political, economic and public level". This could be done by "strengthening the use of enabling technologies to promote women's emancipation" (Goal n.5).

Therefore, in this scenario, the participatory gender budgeting sees citizens as protagonists in the allocation of resources to pursue gender equality, increasing transparency and knowledge and reducing gender discrimination. This would bring empowered citizens (especially women) closer to the local authority. A more participatory GB is realized by adopting various tools for bottom-up citizen involvement such as interviews, workshops, focus groups, debates. However, despite its relevance, GB still takes place on a voluntary basis, determining its limited adoption in both qualitative and quantitative terms. To stimulate the adoption of participatory gender budgeting and its effectiveness, it is necessary to identify more standardized procedures for different contexts, encouraging women and involving them from the early first step of the budgeting process. This could be especially done in the micro-perspective level of local governments, which could have a more significant impact on citizens' life (Frey, 2016).

4. The base of a new "participatory" gender budgeting model

As overcoming the gender gap cannot ignore a greater standardization of the GB to favour its simplified adoption, GB cannot ignore the interrelation with participatory budgeting to translate the citizens' expectations for gender equality in the resources' allocations. If, on the one hand, GB usually provides for the participation of citizens with their comments and reviews in the final phase of the budgeting cycle, i.e., in the auditing phase, on the other hand, PB operates ex-ante, providing for citizens' engagement when the local governments must develop their own budget, allocating economic and financial resources following the citizens' proposals (Falanga & Allegretti, 2016). Therefore, it is possible to state that any participatory model dedicated to repairing gender inequality must integrate *ex-ante* PB tools (dynamic to estimate) and *ex-post* GB tools (static to final balance), involving citizens in the decision-making phase. The citizenry is also supposed to support the institution in the final stage, creating a virtuous and consequential circle of enrichment of reporting performance and reprogramming the budget. This co-governance partnership between participatory and gender budgeting could become an ideoscape, suggesting a model that becomes real only through the use and experimentation of countries around the world, necessarily based on the standardization of tools and procedures nowadays still dissimilar in their application. This would transform participatory gender budgets into ideal venues to collectively discuss the distribution of resources towards new and innovative, more advanced and less fragmented forms of government, capable of re-reading budgets in a gender key and eliminating the disadvantages for women.

The phases of this model cannot be separated from the context analysis of the community's gender preferences, the analysis of the strategic program and executive management plans. Personnel qualification and identification of standardizable indexes are fundamental for the model's diffusion in the long term and to achieve favourable results towards a regime of transparency, equity and efficiency in the allocation of local resources. This standardization should take into account the procedures and tools for the participation of digital citizenship that are made available by the public administration to citizens. In this view, citizens must exploit digitization and its sharing tools, which are still adopted in a different and uneven way today because of various contexts and different levels of digital skills in the population.

Considering the new funds available from the various post-Covid recovery plans, the proposition of a single digital platform on which all stakeholders can participate in the process of "public participatory gender budgeting" appears to be the most functional (Bria, 2019). This platform could include several digital tools that could enable citizens to participate in the process, starting from the proposals' format to a system to discuss all the presented projects. Thus, allowing each citizen, digitally identified (De Cindio, 2012), the opportunity to access and participate in the decision-making process, this model could engage targeted females from the planning to the determination of the budget.

The single and open participatory budget governance platform can act as an aggregator of the various digital tools available to safeguard women interests, such as digital reviews, focus groups, opinion polls, interviews, internet voting, online evaluation and monitoring. The outputs of these participatory tools can be translated into periodic reports that can be updated and optimized by the continuous feedback flow coming from the citizens, who detect the actual trend of citizen satisfaction and, consequently, of the GB effectiveness. This enables to settle and improve ongoing and *ex-post* in terms of corrective auditing.

An embryo example of this digital procedure has been already discussed in Italy by the Chamber of Deputies. In regulating the representation of interests, the Italian institutions are planning to establish an online platform for each administration where it is possible to launch a consultation procedure on the legislative and/or regulatory act of interest, welcoming the participation of a pre-selected list of legitimized stakeholders. This is done for several purposes: (i) to improve the participation of the various stakeholders in the process of making public decisions; (ii) to ensure the transparency of the processes; and (iii) to allow the acquisition, by public decision-makers, of a broader information base on which to base informed choices. A univocal consultation platform, collector of the various activities, could constitute the fundamental reform for fostering the citizens' participation in public gender budgeting. This platform would intervene in defining policies from its initial phase and evaluating the actual availability of the necessary resources, avoiding any possibility of system fragmentation and parcelling.

The centrality of gender budgeting is made more efficient by exploiting the completeness of information deriving from the application of a specific platform, which would allow the greater participation of the most discriminated

groups through the inclusion of mechanisms that avoid the inequality of power and gender. To guarantee more involvement of the various socio-economic actors in the procedures for defining public policies, favouring a greater democracy and improving the quality of regulation, it is essential that the digitization activities of the "open and participatory budget governance" are well-managed. Digitalization must be led concretely, bringing added value to the community and the public decision-maker, avoiding an unjustified techno-optimism (Vydra & Klievink, 2019), but trying to create a space for discussion and debates (Sønderskov, Rønning & Magnussen, 2021). Doing this would benefit from the positive effects derived from opening up to dialogue with stakeholders to improve the system.

Public administrations must regulate decision-making processes, making them transparent and ensuring reciprocity and balance between rights and duties. In this regard, it is worth highlighting how the active participation of citizens should be balanced by a system of rights and duties. There must also be some duties for the public administrations in responding to the inputs coming from the citizenship. They should be monitored through controls and should provide for sanctions for the subjects involved in non-response and/or non-compliance with gender principles. Furthermore, it would be helpful to insert a voluntary and incentive/reward mechanism not only for citizens' participation in public affairs but also for the public administration such as, e.g., differentiated/privileged level of access to information, "quality mark" to open participation to citizens themselves. The regulation must make transparency "convenient", recognizing some benefits to those who are eligible to be registered on the platform.

All the macro-phases and sub-phases analyzed are necessary and fundamental to achieve the desired objectives because, without good planning, any development effort would be in vain; without a skilled and efficient implementation of the budget, the process could be considered worthless. Finally, without a monitoring process, the implementation phase would not maintain high standards of accountability towards citizens.

With these conclusions, this work demonstrates how concepts, that result in the practice still in a primordial phase, could be implemented by local administrations in accordance with the laws, respect for gender equality and in a perspective of technological renewal. Starting from the small realities, passing through the cities and finishing to the regions, it is possible to achieve a fundamental, impartial, equitable, technological and no longer so utopian goal, moving away from that neutral conception of the gender budget to a new GB model, useful to the advancement towards equality, through the allocation of public resources.

5. Conclusions

To conclude, it is evident how restyling public budgeting can contribute to the efficiency of the decision-making process of policies. Thanks to the advent of digitalization tools, it can experiment with new frontiers in supporting the better weighing between the effectiveness of public decision-making and greater inclusiveness. Indeed, thanks to the application of a model such as the one proposed, it would be possible to bring women from a position of weak stakeholders (marginal, with high interest but low influence) to a position of essential stakeholders (key people, with high interest and strong influence). However, this must not be undertaken as a weakening or downsizing of the institutions since the civil development, social cohesion and administrative improvement deriving from participatory budgeting represent a fundamental tool for inclusion and the public administrations' increase in authority.

Moreover, it is essential that citizens' active participation is encouraged along each step of the GB digitalization, namely the analysis of the socio-economic context, the preliminary analysis of indicators, the analysis of policies and programs in the primary and secondary sectors, the reclassification of the budget according to gender and the analysis of personnel, the analysis of the activity of the organization and the use of indicators. This will instil greater confidence in the participatory process by ensuring that the E of gender equity can be combined with the 3 "Es" of economy, effectiveness and efficiency to evaluate the implementation of public administration performance. Finally, it can be stated that, given its centrality, the budget will be able to connect equality goal with macroeconomic policy, exploiting new technologies able to strengthen and influence the various decision-makers.

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Innovation Against Gender Inequalities in Agri-Food Industry

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Abstract: In recent years, industrialization and globalization have prompted small and medium-sized enterprises (SMEs) to implement a significant technological and managerial innovation process. In Italy, it leads to new entrepreneurial pathways, such as innovative start-ups. The new solutions' implementation becomes even more crucial for a company's sustainability during crises since it improves the organization's flexibility and encourages the development of new tools and techniques. Previous research recognized the intangible assets' relevance in the innovation's creation process, mainly referring to Intellectual Capital (IC) and its components. In particular, Relational Capital (RC) fosters reactive firms' resilience, whereas Structural Capital (SC) helps SMEs respond to challenges proactively. Focusing on the agri-food sector, it has recently reached considerable results in terms of innovation, but it still appears insufficient to stimulate female entrepreneurship. Recent data confirm a remarkable gender gap: for 107 innovative agri-food start-ups in Italy, only 14 are led by women. Given all this, the paper aims to answer the following Research Questions (RQ). RQ1: How could RC and SC promote women innovative start-ups in agri-food? RQ2: How did these factors foster proactive and reactive firms' resilience during the pandemic? The work uses an exploratory, descriptive qualitative analysis performed during the pandemic emergency and applies the CAOS model, an interpretative model widely used in SMEs' studies since it allows a deep analysis of relational capital. Moreover, the CAOS model can be helpful to observe the SC's innovation. From a theoretical point of view, the research contributes to gender studies, identifying critical, innovative elements that similar women start-ups could implement. From a managerial perspective, findings could increase the firms' competitiveness in the current crisis period and reduce gender inequality. The application of a single case study could represent a research's limit. Thus, in the future, the authors aim at replicating the analysis considering a more comprehensive sample.

Keywords: innovative start-ups, female enterprises, CAOS model, resilience, relational capital, woman entrepreneurship

1. Introduction

Small and medium-sized Italian enterprises (SMEs), which have always constituted the Italian entrepreneurial skeleton, have seen their competitiveness strongly threatened by the markets' evolution and multiplication in recent years. Therefore, it became necessary to survive on this scenario to find new solutions that would diversify the product compared to other bigger enterprises (Capozza, Salomone, and Somma, 2020; Escribano, Fosfuri, and Tribò, 2009). The Italian legislator has taken specific measures to reduce the entrepreneurial gap, including regulating a new entrepreneurial configuration: the innovative start-up, which also benefits from tax advantages (Law Decree 179/2012).

The requirements established to identify innovative start-ups confirm what stated in the literature: the companies' innovative capacity is strongly linked to Intellectual Capital (IC) and its components, which play a fundamental role in the companies' ability to overcome obstacles in crisis' periods (Ali et al., 2021; Li et al., 2019). In particular, previous studies recognized the role of Relational Capital (RC) and Structural Capital (SC) as reactive and proactive elements to overcome crises (Jia et al., 2020).

Of course, all SMEs have not taken up these measures with reactivity and readiness. Data confirms that the sector that most profitably perceived the possibility of development through innovation was the service sector, while agri-food still has difficulty following in the wake of innovation. In addition, a marginal female entrepreneurial phenomenon can be observed since there is still a strong predominance of innovative enterprises run by men (Modaffari and Della Corte, 2021). Although the gender gap has been widely debated, literature has not deepened women innovative start-ups, especially in agri-food, as a possible means of empowerment. In light of this, the study aims at answering the following questions.

RQ1: How RC and SC could promote women innovative start-ups in agri-food?
RQ2: How did these factors foster proactive and reactive firms' resilience during the pandemic?
This research can enrich the literature on gender studies, specifically concerning women innovative start-ups operating in agri-food, and it can also enrich the literature that analyses the companies' resilience, offering an

experience focused on agri-food women enterprises. The work can also constitute a helpful demonstration of which strategic variables can be considered to implement innovative solutions in a broad sense, reducing the entrepreneurial gender gap.

The work uses an exploratory, descriptive qualitative analysis performed during the pandemic emergency and applies the CAOS model (Paoloni, 2021), an interpretative model used in SMEs' studies to analyze RC. The paper is structured as follows. In Section 2, the literature review is analyzed. In section 3, the methodology is defined. section 4 applies the CAOS model to the case study. Finally, in section 5, discussions and conclusions are exposed.

2. Literature review

Innovation can be defined as modifying specific variables in enterprises' practices to better performance (Curristine, 2006) in terms of competitiveness, profit, strategic goals, or other outcomes (Chittithaworn, Islam, and Keawchana, 2011). Hence, it is a broad concept that can interest much different company profile's fields. Literature recognizes that innovation in SMEs can consist of new products, processes, or management systems (Maldonado-Guzman, Marin-Aguilar, and Garcia-Vidales, 2018), arguing which kind of innovation has a more profound impact on SMEs performance, either the new technology (Caballero and Morales, 2021) or new management practices (Lin and Chen, 2007). If previously, innovating was a prerogative of the most foresighted enterprises, it has become necessary for all the companies to survive on a more fluid and intelligent and demanding market (Adam and Alarifi, 2021), contributing to increasing change and resilience (Porter, 1990; Ortiz-Villajos, 2014). To tackle the current crisis, due to the spread of the COVID-19, Italy chooses to allocate part of the European funding[1] to stimulate entrepreneurial innovation (NRRP, Mission 1: digitalization, innovation, competitiveness, culture and tourism, p.83), focusing on a specific business form called innovative start-ups, namely new companies whose business purpose is to develop, produce, and commercialize products and services of high technological value (Law Decree 179/2012). The innovative start-ups status results from compliance with formal and substantial requirements. The formers require: to be founded as a corporation, including a cooperative; not to be listed; to be no more than five years old; not to derive from special operations; to be resident in Italy (or within the European Economic Area but with production headquarters in Italy); not to have an annual turnover exceeding 5 million euros; to have never distributed profits.

Furthermore, innovative start-ups have to spend R&D and Innovation at least 15% of the higher value between turnover and cost of production. This requirement explains the SMEs' need to recombine their internal knowledge with new ideas to implement innovative solutions (Singh and Del Giudice, 2019; Teece et al., 1997). Secondly, they have to employ highly qualified personnel of at least 1/3 represented by PhDs, PhD students or researchers, or at least 2/3 with a master's degree, as these qualified figures have a crucial role in enriching the company's know-how, leading the R&D investments and generating higher returns (Leiponen, 2005). Finally, the firm has to be the owner, depositary, or licensee of at least one patent or a registered software owner. These tools are crucial to track the R&D improvements (Matricano, Candelo, and Sorrentino, 2021). Hence, it emerges that innovative capacity is significantly linked to IC (Ali et al., 2021; Li et al., 2019), namely the knowledge-based resources and capabilities that allow a company to create value (Bueno, Merino, and Murcia, 2016). According to some scholars (Bontis et al.,1999; Stewart, 1997), IC includes Human Capital, which refers to employees' capabilities (Andrikopoulos, 2010); SC, definable as a set of company's material and financial resources (Aramburu and Saenz, 2011); and RC, configured as the company's bonds set up to carry out the business activity (Paoloni, 2021). In particular, SC and RC can have a relevant impact on a company's capacity to implement innovative solutions and develop resilience in crisis periods. Mainly, RC guarantees a solid network, improving the enterprise's information and anticipating changes and disruptions through appropriate monitoring systems and implementing solutions (Prasad et al., 2015). On the other hand, SC provides the company with the flexibility and ability to move towards other networks that have emerged during the crisis (Nilakant et al., 2014; Jia et al., 2020).

All this given, it emerges that intangible resources could play a key role in developing the socio-economic context even in difficult times. Nevertheless, in recent years, even these realities have been negatively affected by the pandemic crisis, and, once again, SMEs and the retail sector were hit hardest.

[1] NextGenerationEU is an €800 billion temporary recovery tool that will help repair the immediate economic and social damage caused by the coronavirus pandemic to create a post-COVID-19 Europe that is greener, digital, resilient and fit for the challenges of today and tomorrow.

ISMEA data suggest that agri-food is one of the most affected by the pandemic (ISMEA 2020), but it still maintains its stability showing remarkable resilience (De Maria, Solazzo, and Zezza, 2021). Moreover, it has recently reached considerable results in terms of innovation, but it still remains a low-level research sector (counting only 0.76% of innovative Italian start-ups). Concerning gender issues, a marginal female entrepreneurial phenomenon can be observed since there is still a strong predominance of innovative enterprises run by men, and only 13% of the innovative start-ups operating in agri-food are led by women (Modaffari and Della Corte, 2021). Although numerous studies attest to the correlation between the IC's components and the ability to implement innovative solutions in times of crisis, only a few foci specifically on agri-food and even fewer on women innovative start-ups operating in this sector.

Previous research (Popović-Pantić, Semenčenko, and Vasilić, 2020) recognized a gap in innovation between female and male companies, which is variable and depends on the economy's development level.

According to literature, women enterprises are considered less appealing to investors, mainly because of three reasons:

- structural characteristics, as women enterprises are usually smaller, younger, and have less capital stock (Alesina, Lotti and Mistrulli, 2013; Cesaroni and Sentuti 2014);
- personal choices, indeed women have a lower risk aversion which could hinder them from undertaking new businesses or innovating existing ones (Watson, 2006; Dohmen and Falk, 2011);
- stricter attitude of credit institute since banks' willingness to grant financing is more remarkable for bigger and older companies (Coleman and Robb, 2009; Cesaroni and Sentuti, 2016).

Access to credit is key to sustaining the entrepreneurial drive to create a new business or implement a process of innovation. This is especially true if the innovative elements consist of new technologies, which require significant R&D investment to understand and efficiently implement them. Hence, it is easy to understand why generally, women enterprises are less technologically innovative (Strohmeyer, Tonoyan, and Jennings, 2017).

On the other hand, women have a personal attitude to create added value through bringing new ideas (Burgess and Tharenou 2002) and cooperating more easily (Kuhn and Villeval 2015), and it fosters a solid network with external stakeholders (Nadeem, Farooq, and Ahmed, 2019). RC can multiply the available information making the company more aware and ready to react to possible changes in the market (Jia et al., 2020) and encouraging the implementation of innovative elements in the organization's structure (Di Fatta, Caputo, and Dominici, 2018).

3. Research method

The present work uses an exploratory, descriptive qualitative approach, analyzing a single case study (Benbasat, Goldstein, and Mead, 1987; Yin, 2009). The research is performed during the pandemic emergency and applies the CAOS model (Paoloni, 2021), an interpretative model used in SMEs' studies since it allows a deep analysis of RC. Data are acquired through a structured interview (Yin, 1984) directly placed by the company's owners. It lasted two hours and was performed on an online platform (Zoom). The selected company is "Magila Società Agricola SRL", a female innovative Italian start-up whose core business is microgreens' cultivation through the aquaponics technique.

3.1 Methodological background

The CAOS model (an Italian acronym for “Caratteristiche personali, Ambiente, Organizzazione, Start-up”) was born in 2011 to measure RC’s strategic role in female SMEs (Paoloni, 2011), but it is currently used also in wider scenarios (Paoloni and Modaffari, 2021; Paoloni et al., 2021; Dal Mas and Paoloni, 2019). It is based on four variables: the entrepreneur's characteristics (C); the external environment (A); the organizational aspect (O); the start-up phase (S).

The CAOS model then focuses on the relationship between these variables. Entrepreneurs activate first cardinal links (S-C/C-S) because of their personal characteristics, needs, personal goals. Second cardinal links (S-O/O-S) are created to define the organization's functions, roles, and responsibilities. Third cardinal links (S-A/A-S) are established because of external necessities and link the company to its surrounding environment.

Moreover, the CAOS model analyses the duration and nature of these relationships. Formal relationships are based on an obligation with a legal, managerial, or economic nature, whereas informal relationships originate from personal or family choices. Concerning the duration, permanent relationships are consolidated by trust and mutual economic benefit, making them lasting. Temporary relationships, instead, consist of occasional exchanges.

4. The case study

"Magila società agricola SRL" is a female innovative start-up operating in the agri-food. It was born in 2019, and it is composed of three partners: the company administrator is Laura, a 29-year-old woman who holds 20% of the shareholding, whereas the remaining 80% is shared between her parents, Marzia and Marco. The innovative element that differentiates this start-up on the market is its core business: aquaponics farming. Since this agricultural method does not require soil, Magila cannot be legally defined as an agricultural enterprise, and it decides to assume the legal form of SRL, which allows greater flexibility in terms of corporate purpose. The business idea consists of microgreens' indoor cultivation. Microgreens are not yet fully developed vegetables but contain up to 20% more nutrients than ordinary vegetables. Their cultivation is based on a technique known as aquaponics, a combination of aquaculture and hydroponic cultivation to achieve a symbiotic environment. The water in which the fish are reared is deprived of solid waste through a filtering system and transmitted to the tanks where the plants absorb the nutrients they need. Finally, it comes back to tanks containing fish, and the solid part, thrown away, is turned into compost. This process perfectly represents the idea of a circular economy. It creates a circuit where the company does not consume water, except for evaporated water; the business contributes to industrial warehouses' recovery, where tanks are placed; and products are entirely natural. Furthermore, no pesticides can be used on the plants; otherwise, they would harm the fish, and, vice versa, no antibiotics or hormones can be used on the fish as they would harm the plants.

> "These treatments are not possible because they would hurt the aquaponic system, which requires a perfect balance of operation, in a symbiosis between the farming and cultivation systems".

The following paragraph analyses the company's RC by applicating the CAOS model.

4.1 Personal characteristics (C)

Laura is a young entrepreneur from Lombardy who started her first and only company three years ago. After scientific studies, Laura takes a three-year degree in environmental sciences, which will be helpful to her to conceive and implement her business idea. Laura's role is to take care of the research and the relationships with university researchers, biologists and nutritionists, who can collaborate in the business development. The courage to start a new business is significantly due to his family, especially to his father, who has already had experience as an entrepreneur in the health sector. The management style is participatory since all decisions are taken in family consultation. The assets invested in this company are predominantly family-owned; Magila has never asked banks for financing. The only form of external funding the company has drawn on is a European grant obtained after winning a call for innovative start-ups.

4.2 Enterprise environment (A)

The company was founded in Biassono, in northern Italy.

> "Biassono is the perfect place to run this business, because the city assure us clients and also disused warehouses for reuse".

The city environment is perfect for aquaponics. Indeed, it makes it easy to find convertible warehouses where placing tanks. The activity takes place in a two-storey warehouse: the lower part is used for aquaculture, i.e. fish breeding, while the upper floor houses the tanks with the plants. Secondly, it is easy to find restaurants interested in buying both fish and microgreens. The microgreens' market is not yet developed in Italy, and these semi-vegetables are still almost unknown. Also, the socio-economic context does not seem ready to welcome Magila's business, and the disappointing and marginal support proves that Magila received from category associations. Coldiretti[2], suggest Magila sign to the innovative start-up special section, while Assolombarda[3] pushes Laura to participate in the European call for funding for innovative start-ups.

[2] Coldiretti is the largest association representing and assisting Italian agriculture.
[3] Assolombard includes all the major companies in the Lombardy region.

4.3 Organizational aspects (O)

Magila is a family business. Laura and her parents have a managerial role and an operational one. Hence, it has no other employees. The company goal is to develop an Italian microgreen market, creating a system that can attract investors to support a natural product.

> "We believe that aquaponics is one of the breeding and cultivation systems that can meet the highest demands of the environmental economy".

Fish is a diversion to obtain revenues that can keep the company alive, especially in this initial phase when the microgreen business is not mature and would not support the company's costs. Indeed, unlike other international companies that do aquaponic, the fish raised by Magila are not only functional to water fertilization but are eatable to be sold in the surrounding restaurants.

All this allows the company to differentiate itself for its sustainable, non-polluting and circular activity and for its products' quality.

> *"We aim at creating a highly sustainable production chain for excellent agri-food products with our providers* and clients".

Among Magila's goals, profit is significant but subordinate to the project's circularity.

4.4 Temporal element (S)

The enterprise is observed during the current pandemic crisis, when the business development is severely hampered, especially for SMEs. Together with the tourism sector, Agri-food is among the most affected by the restrictive measures to limit the virus spread. This observation moment consists of the company's start-up phase when Magila has tested the aquaponics' efficacy and looks for new clients.

4.5 Analysis of relationships

The qualitative analysis of Magila's relationships is helpful since it can be a pilot case study to understand the RC characterizing women innovative start-ups in agri-food to overcome the current pandemic crisis.

First Cardinal links (S-C). They are characterized by informal and permanent relationships involving the founder and her parents. During the start-up phase, starting from the company's establishment, Laura was supported by her parents, who invested in the first capital injection and satisfied the company operational needs.

Second cardinal links (S-O). Informal and permanent relationships characterize them. The organization is limited to Laura's family. Indeed, they have a managerial role and an operational one. Each of the parents has specialized in a specific field: Marco takes care of the technical aspects, and Marzia cares about the microgreens.

Third cardinal links (S-A). Formal and temporary relationships characterize them. They concern both the relationships with the institutional environment and with potential buyers. The formers refer to universities, trade associations (Coldiretti and Assolombarda) and European public entities. Universities and Coldiretti, after initial interest, dropped the start-up since they have provided neither a contribution of knowledge and managerial skills nor a contribution to tracing possible sources of financing. Conversely, Assolombarda allowed the company to connect with the European public entity that gave small financing to Magila. Regarding the potential buyers, collaborative activities are underway to build a product supply chain regarding micro-greens and freshwater fish delivery.

5. Discussion and conclusion

Innovative start-ups are a tool to encourage the recovery of Italian enterprises (Porter, 1990). It has different expressions concerning activity sectors and gender issues. From the managerial point of view, innovative start-ups prefer the service sector to the detriment of other traditional sectors, such as agri-food. Moreover, innovative start-ups appear to replicate the same problems already discussed in the literature for SMEs, and, in Italy, innovative female start-ups represent a clear minority compared to the total (Modaffari and Della Corte, 2021). *On the other hand, innovation* has a more profound impact on SMEs performance. Hence it is relevant to identify its drivers in crisis periods, like the current one. The literature consistently recognizes IC as a factor of resilience and development, especially concerning RC and SC (Jia et al., 2020).

To promote the literature on gender studies, this research presents a case study related to an innovative female start-up in the agri-food context, investigating:

RQ1: How RC and SC could promote women innovative start-ups in the agri-food industry?
RQ2: How did these factors foster proactive and reactive firms' resilience during the pandemic?

Answering RQ1, the RC and SC's positive impacts are confirmed. These two IC's components promote female innovative start-ups establishment. Especially, as literature states (Cesaroni and Sentuti, 2014), the cardinal links S-C and S-O with parents, crucially contribute to the enterprise's birth, providing the initial capital and all the organizational profiles required to implement an innovative business, that make Magila the first mover in aquaponics in Italy. Furthermore, this research contributes to the studies concerning gender issues and female enterprises complex development, affirming that innovation, considered as SC, can help WE emerge through sustainable growth paths.

Concerning RQ2, the analysis confirms the SC and RC's proactive and reactive role in overcoming crises. A proactive role is related to innovation: the circular project enables Magila to mitigate the adverse economic effects of the pandemic. The reactive role is related to Magila's network: the relationships established in the business start-up phase (cardinal links) enables Laura and her start-up to survive the crisis. As it is typical of SMEs (Paoloni, 2021), the most relevant relationships are informal and permanent. They help Laura sustain the investments and manage the enterprise during the pandemic.

The present work contributes to the expansion of literature in intangible resources and gender studies and confirms that RC and SC can help female entrepreneurs overcome the difficulties of an unplanned event, as the current one. The managerial implication is to demonstrate that RC and SC can reduce the entrepreneurial gender gap.

The application of a single case study could represent a research's limit. Thus, in the future, the authors aim at replicating the analysis considering a more comprehensive sample. Moreover, data's analysis has been available only through direct interviews with female entrepreneurship.

Future research perspectives could focus on the study of other firms to acquire more data on the topic of innovation in the agri-food sector and how intangible resources could contribute to start-up resilience. Focusing on gender studies, the authors will compare any differences between female start-ups and male entrepreneurs.

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Invisible Barriers: Societal Norms Versus Female Workplace Progression

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Abstract: Cultural and societal norms constantly assign different family and religious expectations to women as compared to men. Therefore, this research paper seeks to provide insight into the effects of prevalent cultural and societal norms on the progression of lower-level female managers. It examines the impact of these norms on the fulfilment of work-related duties and the resultant implications for the success of a female within their professional role. The research integrated qualitative and quantitative approaches and was carried out within the culturally diverse province of KwaZulu-Natal, in South Africa. Primary data was gathered using a quantitative questionnaire distributed to thirty-five lower-level female managers, typically fulfilling an entry-level supervisory role, within two separate private organisations. The research was independent of race and age. The findings of the study indicate that respondents face societal and cultural norms that adversely affect progression. These include assumptions of weaker and more emotional management styles, lack of support in meeting family and work obligations, and gender biases impacting access to opportunities for progression. The findings also include women from many cultures by virtue of the diverse cultures within the KwaZulu-Natal region. This paper will therefore be of value to female managers from diverse backgrounds in developed and developing countries. Specifically, female managers encountering invisible barriers to breaking through the glass ceiling and progressing to higher levels of management due to their own cultural and societal norms will benefit from insights delivered. The findings will also be of value to mentors of aspiring female managers, male senior managers with female subordinates, and human resources departments. The research paper will commence with a literature review that examines the relevance of cultural and societal norms in the progression of female managers. The research methods and results of the study will then be described, and findings discussed. The paper will conclude with final insights and recommendations for further research.

Keywords: family obligations; gender equity; glass ceiling; invisible barriers; leadership; organisational culture

1. Introduction

The modern workplace has a more significant proportion of female managers than in previous years. However, as the levels of management have increased, the number of females holding top positions has decreased (Hearne, 2014).

From an aerial view, many perceive a false perspective of equality while, in reality, many female managers are not successfully moving up the hierarchy and reaching top management roles (ConsultnetAfrica, 2015).

One of the reasons for this is the sum of invisible barriers known as the 'glass ceiling'. The glass ceiling affects various industries worldwide and involves unspoken, 'invisible' societal norms that limit (mostly) female managers from progressing to higher levels of management (Genderlinks, 2012). The glass ceiling often includes social and cultural norms related to female roles and traits versus workplace roles and attributes.

An example of a societal norm that may impede female progression in the workplace is the perception that male managers more often display assertiveness and confidence than female managers. Indeed, when female managers assert themselves, society often considers them emotional and feisty (Consultnet.Africa, 2015).

Instances of female managers not being considered for top positions because they may want to start a family is another example of a societal norm forming an invisible barrier and reinforcing the glass ceiling. In such cases, employers believe that creating a family will interfere with the female manager's ability to perform her managerial duties (Matthew, 2015).

Norms such as these affect the confidence of female managers. This may lead to female managers not portraying the self-confidence required to reach top management, despite having the relevant qualifications and experience (Maseko, 2013). In this case, the glass ceiling becomes a self-perpetuating phenomenon.

Societal norms must be changed over time to support female career success rather than creating barriers to female workplace progression. Many imperatives are driving the importance of encouraging female managers

within organisations. These include political and legal imperatives for organisations. These also include strategic imperatives, with female managers often bringing skills and perspectives to a management team that can differ from and complement male managers, facilitating holistic planning and implementation (Ryder, 2015). Recent studies into management styles have concluded that female managers displayed a popular and influential trait in enhancing collaborative decision-making. This is achieved by ensuring that all members' ideas are considered, forming a diverse bank of knowledge that can be used to solve critical managerial issues (Llopis, 2014). An additional imperative for the encouragement of female managers is an economic one. Successful females in the workforce actively contribute to a country's gross domestic product (GDP).

Effectively understanding societal norms and supporting the progression of female managers requires society to take a deeper look at perceptions that contribute towards unconscious or conscious biases that negatively impact females in the workplace. Therefore, this research paper seeks to improve understanding of invisible barriers to female workplace progression by investigating social and cultural norms related to their managerial success. Findings contribute to the body of knowledge on gender inequality by determining the effect of these norms on the success of women within a South African context, focused within the geographical area of KwaZulu-Natal. This geographical area is culturally diverse. Findings will be of interest to managers from a vast array of backgrounds in developed and developing countries alike, particularly those impacted by these invisible barriers to breaking through the glass ceiling and progressing to higher levels of management.

2. Literature review

South Africa is a rainbow nation where democracy and stereotyping are shunned, and many cultures exist in harmony. However, buried deep in society, female gender inequality remains (Nobrega, 2014). A woman within the South African context is fondly referred to as a mother of a family, a nation, or any aspect she takes under her wing. Some believe that God bestowed the gift of bringing life into this world to a woman, which is her sole purpose. While some women were satisfied with fulfilling these roles, the evolution of both the business and social worlds has changed women's needs, goals, and aspirations. Many women are now striving for success and are driven to demonstrate their leadership qualities as equals to their male colleagues.

According to Consultnet (2015) South Africa ranks second in Africa in encouraging female equality, with a comparatively high representation of women leaders in parliament and politics. Women hold managerial positions at all levels in many government departments and within the private sector. However, comparatively high representation still means that women account for only 24% of leadership roles available, with the remaining 76% of leaderships positions being filled by males (Consultnet, 2015). According to a report released by Statistics South Africa (Stats SA) (2016) the gap between unemployed females and males grew drastically, with females being the gender with greater unemployment. The report further states that the gap in earning power of males and females holding the same positions has increased significantly. In recent years the government has made many attempts to create opportunities for female managers to climb the professional ladder. These opportunities are, however, not yet utilised to their best potential (Ibarra, 2013).

The origins of gender inequality can be traced back to the invention of agriculture, where the need to have larger families to contribute to the upkeep of the farm became apparent. These aspects led to women conceiving more children, making it challenging to work on the farm as they needed to mind the children. This changed the dynamics as men became the sole provider of food resulting in them being seen as superior in society (Staff, 2015). Evidence suggests that, as the act of ploughing a field required immense strength possessed by males rather than females, women were further considered to be inferior (Philips, 2011).

For women today who secure management roles in modern society, their obstacles in career progression do not end once they have acquired this role. Instead, they often face ongoing struggles, encountering the glass ceiling and believing that women are inferior leaders and managers. This affects women of all races, ages, and social classes. Thousands of women graduate each year with management qualifications but still struggle to find opportunities within the corporate sector to demonstrate their talents (Van Vyk, 2014).

In understanding critical reasons for the perpetuation of this phenomenon, the role of social and cultural norms should be examined. Social norms represent the set of expectations that people within one's social group and broader sector of society use to judge themselves and others within that social group or social sector (Mcleod, 2008). Culture refers to how people live their lives (South Africa History Online, 2011). Cultural norms serve as

a rule book of correct and desirable behaviour patterns versus those that are prohibited and frowned upon within one's culture. Cultural norms can differ from the norms of one's social group/s and are expressed within the norms of the social group/s. Social and cultural norms are therefore described in combination to create a dynamic mix of societal norms. Norms create an expectation of how people should live their lives, with those who adhere to the norms experiencing a higher level of acceptance and perceptions of success by their community (Mcleod, 2008). In workplace progression, a problem arises when these societal expectations do not support the professional environment. Due to the rewards associated with behaviour that meets expectations, and the punishments for behaviours that do not, many people follow these societal rules regardless of personal preference.

In South Africa, diverse social and cultural views can create many challenges for females. The patriarchal system of beliefs still exists and, in most circumstances, leads to the subordination of females in society. Gender in the African culture is still often expressed according to the roles and responsibilities of a man and a woman. Females are generally responsible for keeping the family together, supporting the males whose job is to go out and provide for the family (Ngubane, 2010), caring for children, carrying out cultural traditions, and educating their children about their culture. The man (husband in a traditional household) is responsible for meeting the family's financial obligations. This places women in a dilemma. They are considered to be neglecting their family responsibilities when pursuing a career (Bosch, 2015) and their work commitments when supporting their family. Should a woman spend time away from her children, household and family duties may be left unfulfilled (Jaber, 2017).

According to Osman (2008), women often feel disempowered when choosing between their family, cultural responsibilities, and managerial positions. Female managers are often not considered culturally successful despite achieving managerial success. They are judged by the commitment with which they serve their culture. This judgement can result, not only in adverse emotional implications for women, but physical ones too. According to StatSA (2016) women who are seen breaking these norms are at a higher risk of domestic abuse. Society sees these women as neglecting their culturally accepted role in the household and attempting to take on a male role, therefore, neglecting their family.

Societal norms further govern how society treats gender and professional progression through a subset of norms applied within the workplace. For example, males and females are typically characterised by masculine or feminine qualities and are expected by society to acquire and perform jobs that align with these qualities (Heddleston, 2015). According to Akpinar-Sposito (2013) the social and cultural definition of what would generally be considered male and female jobs in South Africa are the cause for segregation in the current workforce. This segregation further manifests itself in other challenges which female managers and leaders face.

Societal norms impacting on female progression in the workplace also include employers who are of the notion that male employees offer more working hours and more economic earning power than females; employers who believe that males offer more employee loyalty because females are more likely to choose to take care of their children, while males remain with the company for an extended period to support their family (Bosch, 2015); young female managers not being considered for top positions since they might want to start a family and many employers believe that this will interfere with their ability to perform their work-related duties (Matthew, 2015).

As a result of societal norms, many women who progress in their careers still experience immense difficulty issuing out instructions to their male subordinates. Many males find it difficult to accept these instructions. This makes it extremely difficult for female managers to fulfil their roles and lead in the manner they should (Maseko,2013). According to Tomaszewsk (2018) females might not necessarily agree with the cultural norms and may understand that it is a limiting factor in their careers. However, they continue to follow these for fear of being rejected by society.

Social and cultural norms are invisible barriers that create the glass ceiling. The glass ceiling is known as an unseen barrier that exists in corporate organisations. This barrier is not penetrable by gender due to prejudice (Barrios, 2006). This barrier results in significant gaps in salaries, benefits, and professional titles between males and females, with males generally being advantaged by the presence of the glass ceiling (Barrios, 2006). This practice is considered illegal in most countries, including South Africa. An important consideration is that the glass ceiling is not an act aimed solely at discriminating against women; it is sometimes a non-intentional practice

even while implementing organisational policies and procedures (Lewis, 2017). In cases where the glass ceiling is a limiting factor for both males and females, it seems to be of no benefit to anyone in modern society (Belanger, 2017).

Evidencing the impact of the glass ceiling on women, a South African study was conducted regarding the hierarchical managerial structure of many large organisations to understand the difference in earning power between males and females. It was established that male management employees earned a remarkable 35% more than their female colleagues (Bariet, 2020). There are many conflicting opinions about the reasons for this earnings gap. Some believe that males contribute more time and effort to an organisation than females; others think this results purely from discrimination (Bielby, 2002).

According to Ryder (2015) gender discrimination in the workplace is challenging to prove. One must go to great lengths to demonstrate unfair treatment, which may involve gaining access to salary information, individual treatment details, and workplace promotion decisions. For this reason, most cases of gender discrimination remain undocumented and unheard of. The South African government has provisions such as the Basic Conditions of Employment Act (BCEA), to eradicate discrimination based on gender. However, some argue that the BCEA is not a magical tool to solve all injustices. Improved understanding of the invisible barriers to female progression is crucial in ascertaining the most impactful ways of delivering against the intentions of the Act.

3. Methodology

This study adopted the integration of both quantitative and qualitative techniques. Secondary data was found to be the most suitable method to solidify a foundation for the research. Secondary data was gathered from many resources, including peer-reviewed and published journal articles, research papers and other credible internet sources.

A quantitative questionnaire was then used to conduct primary research into the topic and contribute to the existing body of research. Questionnaires were selected as the most reliable and confidential manner to obtain information relating to the research topic. This method also allowed for feedback to be gained promptly and for feedback to be precise and linear.

The questionnaire was developed to focus on five key themes:

- The impact of cultural norms on the success of female managers.
- The impact of societal norms on the success of female managers, including aspects such as choosing between family and professional responsibilities.
- A study of the Basic Conditions of Employment Act related to providing for a female manager's family commitments.
- The presence of a 'glass ceiling' within the organisation.
- The impact of cultural and societal norms on the confidence of female managers in their professional life.

Questionnaires were distributed to lower-level female managers of two private companies situated in KwaZulu-Natal. KwaZulu-Natal, formally known as Natal, is considered a focal point of South African history and has a rich diversity of cultures and languages (KwaZulu Natal, n.d.). There was therefore a high likelihood of obtaining representation across multiple cultures in the research results.

Participants from the two private companies surveyed had to fulfil the following criteria: 1) Participants had to be female, and within the age group of 18-60 years old; 2) Participants must have been in a lower-level managerial position for one year or longer

The sample population included 35 lower-level female managers, comprising of 15 from a private educational institution and 20 from a private insurance and underwriting company. In the case of this research, lower-level managers were categorised as those holding entry-level managerial positions within an organisation, typically at a supervisory level. Of the 35 administered surveys, 34 were completed, and one was spoiled. All participants possessed a level of managerial training. Therefore, they were familiar with crucial executive terms and concepts, ensuring that participants were informed and equipped to provide the relevant data required for the research.

Targeting two companies from two different industries was deliberate. Both companies were small, ensuring that access would be readily granted, and sessions would occur without senior management's presence to avoid intimidation.

A random sampling technique was utilised to select participants from the population for this study. To ensure all respondents' confidentiality and privacy, the name of the respondents and companies will not be used.

4. Findings

The age groups of the participants are reflected in Table 1. The most prevalent age group was for participants in the 18-28-year age group, with the least representation being between the ages of 39-48.

Table 1: Age group of participants

Age of participants	18-28	29-38	39-48	49-58	58+
Percentage of participants	32%	14%	12%	29%	13%

Societal norms stand as the unspoken rules by which humans live their lives (McLeod, 2008). As seen in Table 2, the majority of participants (82%) indicated that they could not leave societal norms behind once they entered their managerial role at their organisation. It is interesting to note that only 6% of the participants strongly disagreed with this statement. Many women also indicated that societal norms and associated expectations limited them from performing their managerial activities adequately and to the best of their ability.

Table 2: Inability to leave behind societal norms when in a managerial role

Participants are unable to leave behind societal norms when in a managerial role	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Percentage of participants	32%	50%	0%	12%	6%

In terms of leadership style and as seen in Table 3, responses showed that 71% of female managers consider themselves transformational leaders and utilise these methods in their day-to-day managerial activities. In terms of perceived gender capabilities, male counterparts have considered this management style weaker and more emotional even though it has produced better results (Pachetha, 2013).

Table 3: Leadership style

Leadership style	Transactional	Transformational	Other
Percentage of participants	29%	71%	0%

A large portion of the respondents (71%) felt that current norms do not encourage them to reach executive management. 20% of respondents strongly disagreed. Therefore, the research suggests that societal support for most women surveyed is not conducive to career progression. These findings are reflected in Table 4.

Table 4: Current norms and encouragement to reach executive management

Society and its norms encourage participants to reach executive management positions	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Percentage of participants	4%	5%	0%	71%	20%

Female managers often have extensive family commitments. A high number of respondents (79%) indicated that they could not easily balance responsibilities associated with their role as managers with family commitments. All of the participants indicated that they have to take time off work to meet family duties and then struggle to work overtime to meet work commitments as cultural and societal norms expect them to be available to their families.

From the perspective of religious norms, the women surveyed were from diverse religious and cultural backgrounds. Women are often seen as the bearer of religious practices and have more spiritual and cultural duties to perform than their male counterparts (Jaber, 2017). To this end, a common trend existed across all respondents indicating that their faith does not encourage them to dedicate their focus to managerial duties and career progression ahead of family duties. All participants also indicated that managerial requirements are not scheduled to work around the cultural needs of female managers.
Since there are many different cultural beliefs in South Africa, it is not feasible for organisations to close for every religious holiday or event. This can, however, place strain on female managers as they must divide time to adequately meet religious and cultural duties and be seen as productive and committed to the organisation

and their managerial role. It is apparent in the responses received that all participants felt unable to take time off from work to fulfil their religious obligations without the fear of coming across as disinterested and not committed to the company. It is important to note that female managers did not perceive themselves as having been assigned a larger workload than their male counterparts. However, the additional responsibilities resulting from their cultural background and society, added an increase level of difficulty in completing tasks.

Jaber (2017) states that a successful woman, as per societal norms, can take care of the upkeep of her house and family with ease and dedicate herself unselfishly to her family. Despite the constant evolution of gender roles, the responses to the questionnaires reveal that society does not necessarily consider a woman successful by her title in the professional world; therefore, many women prefer not to mention their professional successes in public. It is, therefore, unsurprising that female managers may not feel confident when having to correct male subordinates professionally. As seen in Table 5, only 29% of the participants felt that they could comfortably correct a male subordinate professionally, while 71% felt uncomfortable doing so.

Table 5: Correcting a male subordinate

Participants feel comfortable to correct a male subordinate	Agree	Disagree
Percentage of participants	29%	71%

According to Chan (2013), women who have inner confidence are often afraid to display that confidence for fear of coming across as abrupt and being frowned upon by society. The responses to the questionnaire confirmed this, as seen in Table 6. Majority of the participants (92%) see themselves as successful managers and feel that they have a successful manager's appropriate skills and capabilities but are not comfortable making this explicitly known. All the respondents indicated that they would question their abilities when faced with gender inequality, eroding their confidence in themselves.

Table 6: Confidence amongst female mangers to fulfil all relevant roles and responsibilities

Participants feel that they can confidently manage their responsibilities as a daughter/wife/ mother as well as their managerial duties with ease.	Agree	Disagree
Percentage of participants	8%	92%

When asked about the glass ceiling as a concept, all of the participants were aware of the practice and believed it exists within their organisation. They felt that men and women were not treated equally concerning promotions.

It was essential to establish whether participants were aware of the laws of the country related to maternity leave as it would shape the results of the questions to follow. It also provided insight into how available this information is to respondents. The Basic Conditions of Employment Act of South Africa was developed to create fairness and equality in the workplace (Ryder, 2015). Despite this, many women still feel that the legislation does not provide adequately for their responsibilities. 85% of the respondents understood the details of the Act but all respondents still felt uncomfortable with the maternity leave policy. They did not think that the Act provided adequate time for them to spend with family while protecting them from penalties imposed due to their absence from the organisation. 85% of participants further indicated that they did not feel that the regulations catered to their nurturing needs for a new baby, disagreeing with the statement that the maternity benefits concerning leave provided by the government were sufficient.

In the final analysis, 97% of participants agreed that gender equality is not achieved in their organisation. The majority of participants felt uncomfortable in the process of balancing their personal and professional responsibilities, with 56% of participants admitting to having received some form of reprimand for putting family responsibilities ahead of professional responsibilities. As per the questionnaire, 91% of participants also felt that a male superior had treated them unfairly and that the lack of fairness stemmed from the participant being female.

The study aimed to establish whether women could meet their social and cultural responsibilities as compared to men. Results indicate that the organisations surveyed did not adequately support female managers to fulfil these responsibilities. 97% of participants indicated that their organisation did not cater to their personal cultural needs.

Finally, the study aimed to establish how comfortable a female manager would feel should she need to exit a board meeting to attend to a family emergency. It is important to note that this represented their opinions and feelings and did not directly reflect the rules of the organisation. A large majority of the female managers indicated that they would not feel comfortable doing so, showing that many female managers cannot comfortably blend their personal and professional lives.

5. Conclusion and recommendations

This study demonstrates that many embedded cultural and social norms do not support female lower-level managers striving for career excellence and executive management roles. Research findings suggest that, while the South African private sector has progressed in terms of equity and acknowledging females in leadership roles, female managers still face numerous challenges. Many of these challenges result from inequities in cultural and societal perceptions and expectations of males and females. Findings suggest that personal roles such as those of wife and mother cannot be set aside during working hours and women feel that they have added pressure to perform without the required organisational support. The impact of unsupportive norms must be considered when addressing women's professional lives and career progression in the workplace.

There is room for future research to observe a larger sample size, and to investigate whether there are generational differences in challenges to female progression. The introduction of Generation Z into the workforce, and a possible shift in gender roles, could also be explored. Further, it is recommended that research be undertaken to establish how female managers themselves may be influenced by societal and cultural norms when making managerial decisions, thus impacting on female workplace progression. Finally, future research could also investigate the balance between the organisation's role in creating equity in the workplace, and society's role in creating equity within its cultures and communities.

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Social Network Dynamics in Transmission of HIV by Sexual Contact

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Abstract: According to statistics published by the Joint United Nations Programme on HIV/AIDS (UNAIDS), by the end of 2019, 38 million people were living with HIV. Hornet is the most frequently-used gay-oriented social network worldwide, especially in France, Russia, Brazil, Turkey, and Taiwan. In this study, we focused on the correlation between the route of transmission for the HIV-1 virus and social media application usage in terms of sexual contact according to the generation category in Turkey. The study included 280 heterosexual, bisexual, and men who have sex with men (MSM) who were newly diagnosed and antiretroviral treatment-naive HIV-1 patients from cities located in the Marmara region in Turkey. Face-to-face interviews were conducted with each patient between 2015 and 2020. As key populations of the study, bisexuals and MSMs were counted together in the MSMs category because in both sexual preferences, MSM. HIV-1 subtypes and circulating recombinant forms (CRFs) were identified by phylogenetic analysis. Subtype B (80%, 224/280), non-subtype B (7.5%, 21/280), and CRFs (12.5%, 35/280) were identified as the most commonly occurring HIV-1 subtypes. HIV-1 acquisition route was found to be largely through MSM contact (67.9%, 190/280) compared to heterosexual contact (32.1%, 90/280). We have analysed the role of sex-oriented social media applications in HIV transmission among different sexual contacts. The study results showed that sex-oriented social media applications play a facilitator role in HIV transmission between key populations. This study may be useful for developing policies to prevent HIV transmission.

Keywords: HIV, Hornet, MSM, sexually transmitted Infections, social network

1. Introduction

HIV is the causative agent of Acquired Immunodeficiency Syndrome (AIDS) and is responsible for destroying the human immune system by decreasing CD4+ T-lymphocytes. The main modes of HIV transmission are sexual contact, intravenous drug use, mother to child, and unsafe blood transfusions. HIV continues to be a significant global public health issue. According to statistics published by the Joint United Nations Programme on HIV/AIDS (UNAIDS) data, 38 million people globally were living with HIV, and 23.3 million people had access to antiretroviral treatment in 2019. The estimation analysis suggests that it will reach 33 million people by 2030 (UNAIDS, Global HIV & AIDS statistics 2020).

On the other hand, in Turkey, there are 24,237 HIV-infected individuals confirmed as of July 2020, and approximately five people are infected with HIV-1 every day (Ministry of Health of the Republic of Turkey). According to another source, the International Pharmaceutical Market Database's (IMS) current data for Turkey (October 2019), 16,806 patients have access to antiretroviral treatment (International Medical Statistics 2019). It was revealed that the primary methods through which HIV is transmitted in Turkey are via heterosexual sex (52%), followed by men having sex with men (MSM at 43%), and bisexuality (3.6%) among the total recorded cases (Sayan et al., 2016).

Social media platforms have become an essential part of people's lives worldwide. Statistics show that social media is more important for younger generations (Social Media Trend Report 2019, 2019; The Science of Social Media, 2019). According to the global social media usage statistics, there are 3.499 billion active social media users out of 4.4 billion internet users. From the entire global population (7.7 billion) as of May 2019, 57 percent of the world's population is connected to the internet. This means that those who are online outnumber those who are not.

Additionally, 45% of the world uses some form of social media. On average, each person has 7.6 social media accounts, and the average time spent on social media daily is 2.3 hours (The Science of Social Media Statistics, 2019). The Flagship Report 2019 indicated that populations of emerging nations are much heavier social media users. In Turkey, the average time spent engaging with/connected to social networks during a typical day is

approximately 3 hours. Turkey ranked thirteenth in terms of social media usage duration out of 46 countries (Global Web Index, 2019).

Another recent statistic shows that social media usage is no longer purely related to social activities; in fact, it creates the possibilities for social engagement on a 24/7 basis without the necessity to be in a specific location, which has facilitated the evolution of social platforms into entertainment hubs (Social Media Trend Report 2019, 2019). This trend report shows that social media platform usage has become a more purposeful activity in recent years. People have acquired the opportunity to re-establish their networks. These platforms allow them to select only those they feel the most comfortable with for inclusion in their network. For these reasons, relatively more minor and more specialized social platforms have become more prevalent in recent years among internet users. Sex-oriented social media applications have begun to be widely used by bisexuals and MSMs worldwide. Hornet has the most used gay-oriented social network worldwide, especially in France, Russia, Brazil, Turkey, and Taiwan. Hornet was founded in 2011, and as mentioned on the Hornet website, it is the world's most widely-used gay social network. Hornet has over 25 million users globally.

The mission of this social media network is to empower gay men to come out and enjoy themselves within an openly gay community (Hornet, 2019). Hornet is a specialized gay network different from Facebook, Instagram, Twitter, etc. It is targeted at MSMs. As stated on their website, it is a place for joy. Gay people may feel more comfortable using these kinds of social media networks as the societal stigma can cause them to be perceived as an outgroup by society in their daily routines.

This study aims to examine the possibility that MSM individuals may encounter harm in various ways when using sex-oriented gay-friendly social networks based on the assumption that social media changes how people live.

2. Material and methods

The research question of this study the based on the aim of this article is:

RQ: Do sex-oriented gay-friendly social media platforms affect HIV transmission and extension?

To answer this research question, quantitative and qualitative research methods were used simultaneously within the study. Quantitative research was conducted using two different ways. First, the microbiological examination was performed in a laboratory. With the help of microbiological tests, the HIV acquisition route, diagnosis status, and co-infection status of patients were analyzed (Table 1). Secondly, face-to-face interview methods were carried out with patients. The data obtained from the patients were processed into a data sheet created in SPSS and subsequently presented in tabular form as a content analysis. Furthermore, the questionnaire was designed in a semi-structured style that includes both quantitative and qualitative questions. The main aim of this questioning technique was to explore 'how' besides 'what.' Especially if questions belonging to gay-friendly sex-oriented social media platform usage response was in a positive direction, open-ended questions had been asked to patients to get more detail.

Table 1: Demographic characteristics of the study patients

Characteristic	Study group
Patient, n	280
Gender, M/F (%)	270/10 (96.4 / 3.6)
Age, median years (range)	34.7 (18-68)
$CD4^+$ T-cell count, median mm^3 (range)	443 (11-1351)
HIV-1 RNA load, median IU/ml (range)	2.2 + E6 (2.8 + E2 – 3.3 + E8)
Sampling, City of Marmara region, n (%) İstanbul Bursa Sakarya Kocaeli	 237 (84.6) 30 (10.7) 8 (2.9) 5 (1.8)
HIV acquisition route, n (%) MSM contact* Heterosexual contact	 190 (67.9) 90 (32.1)

Characteristic	Study group
Diagnosis status, n (%)	
Newly-diagnosed	270 (96.4)
Under treatment	10 (3.6)
Co-infection status, n (%)	
Syphilis	16 (5.7)
Hepatitis B	8 (2.9)
Herpes zoster	3 (1.1)
CMV infection	2 (0.7)
HPV infection	2 (0.7)
Candidiasis	2 (0.7)
Gonorrhoeae	2 (0.7)
Tuberculosis	2 (0.7)
Kaposi sarcoma	1 (0.4)
Brucellosis	1 (0.4)
Pneumonia	1 (0.4)
Total	40 (14.3)

2.1 Patient population and measures

The patients' clinical and laboratory characteristics are shown in Table 1. This study was designed to cover the period 2015 – 2020, and it included 280 patients in cities from the Marmara region of Turkey who was newly diagnosed as HIV-1 infected. 270 (96.4%) HIV-infected patients were male, and only 10 (3.6%) patients were female. The average age of the patients was 34.7. For the patients, CD4+ T cell count was accepted as the immunological status and was 443 median mm^3, HIV-1 RNA load taken as virological status, and was 2.2 +E6 IU/ml. Most of the patients were from İstanbul (237 patients- 84.6%). Then patients from the Bursa region with 10.7 %, from Sakarya with 8 (2.9%), and Kocaeli with 5 (1.8%) were questioned. The importance of the Marmara region is based on its level of urbanization and as it is a central metropolitan area in Turkey. As the density of HIV diagnosis stands out in the Marmara Region, especially in İstanbul, the study was conducted in this area. However, this region has the largest population of MSMs in Turkey, and the density of HIV diagnosis stands out, especially in Istanbul (Sayan et al., 2016). 190 (67.9%) patients' HIV acquisition route was MSM contact, while only 90 (32.1%) patients were heterosexual. The questioned patients mainly were newly diagnosed (270- 96.4%) with HIV. 40 (14.3%) of participant patients have had co-infections besides HIV. Syphilis (16- 5.7%) was placed on top as a common co-infection with HIV.

During the research, the patients were asked, 'Do you use any sexually-oriented applications to find a partner?'. If the patient reported using such an application, they were asked, 'Which application they were using?'. The main common characteristic of sex-oriented applications is that they are based on geolocations, which means that applications use GPS functionality. Then the patients were asked, 'Why do they prefer to use gay-friendly sex-oriented social media applications?'.

For this reason, smartphone users have been reviewed because such devices contain GPS modules. Sex-oriented gay-friendly social media applications include Hornet, Grindr, Scruff, Jack'd, and Chappy. The most prominent sex-oriented mobile application in Turkey is Hornet. Sex-oriented social media application usage frequencies were examined based on different generations.

The generations were determined as follows: Greatest Generation (1927 - 1945), Baby Boomers (1946 - 1964), Generation X (1965 -1979), Generation Y (1980 - 2000), and Generation Z (2001 - 2020) (Öze, 2016).

Only adults were (>18 years + >350 mm3 CD4+ T cell count) in the study group because paediatric findings were excluded. Childhood infections were excluded because sexual orientation cannot be questioned for children ethically. Ethical approval was obtained from the Clinical Research Ethics Committee of Kocaeli University (KOU KAEK 2013/45), and written informed consent was obtained from all participants. According to the Turkey Ministry of Health records, the patients in the study had been newly diagnosed and were found to be antiretroviral treatment-naive. HIV-infected patients were categorized according to European AIDS Clinical Society (EACS) Guidelines for the diagnosis and treatment.

The HIV subtype categories are based on the Los Alamos HIV database (Los Alamos National Laboratory. HIV sequences database. https://www.hiv.lanl.gov/content/sequence/HIV/mainpage.html).

2.2 Statistical analysis

The difference between the two proportions was measured using Pearson's x2 test or Fisher's exact test. A p-value of ≤0.05 was considered statistically significant. All statistical analyses were performed using SPSS software (v24, IBM, SPSS Statistics, Chicago, USA).

3. Results

In this research, HIV is not evaluated as an issue that should be covered up but rather as a topic that needs to be addressed. This study was conducted on 280 people diagnosed as HIV-infected in Turkey. Within the research scope, 96.4% of the patients diagnosed with HIV were male, and 3.6% were female. Also, all patients were in the the18-68 age range, where the average age was 34.7 years.

In terms of the HIV acquisition route, it was found that 90 (32.1%) were transmitted via the heterosexual route and 190 (67.9%) via MSM. This determination was based on the patients' voluntary declarations. It is noteworthy that most HIV-1 patient virus acquisition routes were MSMs. As MSM contact appears to be the primary source of HIV-1 infection, this needs to be examined. Within the scope of the study, some other coinfections were detected in patients with the HIV-1 virus. Coinfection was detected in 14.3% of patients, and the most common coinfection was syphilis. The demographic characteristics of the study patients are shown in Table 1.

Table 2: Sex-oriented social media application usage and sexual contact route according to the study patients' generation category

Sexual contact	Generation category	Application usage		Total, n (%)
		App +, n (%)	App -, n (%)	
MSM	Generation Z	ND	1 (0.5)	1 (0.5)
	Generation Y	135 (71.1)	24 (12.6)	159 (83.7)
	Generation X	15 (7.9)	10 (5.3)	25 (13.2)
	Baby Boomers	2 (1.1)	3 (1.6)	5 (2.6)
	Total	152 (80)	38 (20)	190 (100)
Heterosexual	Generation Z	ND	1 (1.1)	1 (1.1)
	Generation Y	ND	45 (50)	45 (50)
	Generation X	ND	31 (34.4)	31 (34.4)
	Baby Boomers	ND	13 (14.4)	13 (14.4)
	Total	-	90 (100)	90 (100)
Total	Generation Z	ND	2 (0.7)	2 (0.7)
	Generation Y	135 (48.2)	69 (24.6)	204 (72.9)
	Generation X	15 (5.4)	41 (14.6)	56 (20)
	Baby Boomers	2 (0.7)	16 (5.7)	18 (6.4)
	Total	152 (54.3)	128 (45.7)	280 (100)

ND; not determined

Of the HIV-infected patients, 54.3% (n=152) were using the application, and 45.7% (n=128) were not using the application. However, 72.9% (n=204) of the HIV-infected patients were determined to be part of Generation Y. Furthermore, 56.8% (n=159) of the patients were MSMs, and 16.1% (n=45) patients were heterosexual in Generation Y. A total of 80% of the HIV-infected MSMs (n=152) were using the application. Only 20% (n=38) of the MSMs were not using the application. None of the heterosexual HIV patients declared using a sex-oriented social media application. Sex-oriented social media application usage according to sexual contact route is shown in Table 2

Table 3: HIV -1 subtype diversity according to the sexual contact route of the study patients

HIV-1 subtype		Sexual contact		Total, n (%)
		MSM, n (%)	Heterosexual, n (%)	
	B	162 (57.9)	62 (22.1)	224 (80)

HIV-1 subtype		Sexual contact		Total, n (%)
		MSM, n (%)	Heterosexual, n (%)	
	Non-Subtype B	13 (4.6)	8 (2.9)	21 (7.5)
	CRF	15 (5.4)	20 (7.1)	35 (12.5)
	Total	190 (67.9)	90 (32.1)	280 (100)

CRF: Circulating recombinant form

The following HIV-1 strains have been identified as the most commonly occurring in the HIV-infected study patients: Subtype B (80%, 224/280), non-subtype B; A1, C, F, F1, G, K (7.5%, 21/280), and CRFs; CRF01_AE, CRF02_AG, B+CRF02_AG, CRF12_BF, CRF13_cpx, CRF17_BF, CRF29_BF, CRF 47_BF, CRF56_cpx (12.5%, 35/280). Hence, Subtype B was the predominant HIV-1 subtype in the study patients. HIV-1 subtype diversity according to sexual contact route is shown in Table 3.

4. Discussion

People are now increasingly socializing within structured social networks. According to Coleman (1990) and Collins (1998), social networks can be evaluated as an essential component of social capital. People can use social networks to gather and share information, evaluate information, learn about the strictness or compliance of social norms, and affect the attitudes and behaviours of others (Kohler et al., 2007; Heckathorn, Broadhead, and Weakliem, 1999). However, our findings show that HIV-1 and related coinfections can be transmitted via social networks. Furthermore, this study shows that most of the HIV-1 infected patients that used sex-oriented social media applications are MSMs (Table 2). As Amirkhanian (2014) mentioned, MSMs are most affected by HIV worldwide. MSMs are faced with similar experiences in homophobic countries. MSMs are categorized as out-groups by society. MSMs live in extreme normative conditions in Turkey because their family may reject them or evict them from their home due to their sexual orientation. MSMs may also desire to protect their family from societal pressure and social isolation (Bott, 1971; Wah-Shan, 2001; Li et al., 2008; Yoshioka and Schustack, 2001, Mustanski, 2011; Bird and Voisin, 2001; Wah-Shan, 2001).

These factors can play a crucial role in increasing MSM's vulnerability to HIV infections because of risky sexual behaviours such as having casual, multiple partners and unprotected sex (Warren et al., 2007; Ryan, 2009; Offord, 2001; Kelly et al., 2010; Amirkhanian, 2014; Liau, 2006; Chiasson 2007; Fauk et al., 2017; McFarlane et al., 2000; Berkman et al., 2000; Weiss, 1974; Marsden and Friedkin, 1994, Garofalo et al., 2007; Bauermeister et al., 2011; Landovitz et al., 2013; Duncan et al., 2016; Winetrobe et al., 2014; Newcomb et al., 2016; Beymer et al., 2014; Rice et al., 2012, Grov, et al., 2007; Halkitis and Parsons, 2003; Fawzi et al., 2019) on isolated online platforms. MSMs try to find places where they can feel comfortable, accessible and escape from societal same-sex-related stigma, and this is easy to find in online spaces (Baral et al., 2018; Hightow-Weidman and Muessig, 2014). Sex-oriented gay social online networks (Grindr, Hornet, etc.) function as geolocation-based dating software (Queiroz et al., 2017). The lack of social pressure allows MSMs to free themselves from discrimination. This study suggests that the structure of sex-oriented online networks is directly connected with HIV-vulnerable behaviours. This finding may suggest that sexually transmitted diseases other than HIV can also be spread through applications like Hornet, where multi-partnering is prevalent. Hornet is not a network that provides information on how to protect oneself from HIV; it is a place where MSMs to get interaction with weak ties" (Kohler et al., 2007, p. 2).

According to our findings, sexually transmitted co-infections were primarily observed in the MSM population (Table 1). On the other hand, subtype B was the dominant HIV-1 subtype among MSMs patients (Table 3). However, the study group's median CD4 + T-cell count shows that the HIV infection was diagnosed too late (Table 1). CD4 + T-cell can be counted as proof of the time of HIV infection. The number of CD4s cells was 600-1200 in normal individuals (within a 95% confidence interval), but it was found to be 443 in the study patients. Briefly, HIV-1 subtype B mostly circulated among the MSM population, diagnosed as late presenters. However, they were also with second sexually transmitted infections during this time. The findings show that social networks mainly harm MSNs. Therefore, to reduce this harm, it may be helpful to question social networking practices in terms of HIV infections and treatment follow-up.

Gay-friendly sex-oriented social media apps are innovative tools for reaching MSM populations due to the increased accessibility of innovative phone technology. These applications have become popular among MSMs because they offer the opportunity for quick and confidential collection of vital data for obtaining casual and multiple partners and social connections (Ayala et al., 2018). It can be defined as a consideration of how quick these relationships are, in which users perceive their peers as something to be consumed (Beymer et al., 2014; Rice et al., 2012; Yeo and Ng, 2016). This study focuses on sex-oriented social media application usage, casual and multi-partners, and its reflection on HIV vulnerability. The findings show that sex-oriented social media applications usage, particularly the high usage of Hornet, has led MSMs in Generation Y to seek casual sexual partners.

5. Conclusion and suggestions

The level of HIV-related stigma, depressive symptoms (Clum, 2009), lack of HIV disclosure (Simbayi, 2007), limited social support, and employment status (Dixon, 2001) are psychosocial factors that could lead to sexually risky behavioural patterns. All the risk mentioned above factors for HIV-related stigma exists in Turkey. Lui et al. (2018) argued that MSMs are surrounded by significant homophobia and inequality associated with their sexual preferences, gender, and cultural origins. Turkey is not a gay-friendly country, which means that MSMs often experience discrimination and abuse, and there is public tolerance for social interactions with other MSMs. Hornet is a widely used sex-oriented social media application used by Generation Y MSM individuals diagnosed with HIV in the Marmara region. MSM users can quickly and easily interact with casual partners through this sex-oriented network. Sex-oriented social media usage has differentiated aims. Hornet is an online platform that represents an improper way to behave according to societal norms, which breaks the walls of society.

Furthermore, Hornet is an application with increased uncertainties due to the inability to determine HIV status when randomly selecting network partners. This means there is a high tolerance for risk because of the preference for unsafe sex. Hornet can be defined as a social network that is a place for joy but accompanied by high HIV risk.

Our findings show that Generation Y usage of the Hornet application is more intense in metropolitan areas. As 80% of MSM HIV patients use this application, this shows the correlation between HIV infection and application use. This finding proves that MSMs predominantly acquire HIV. In addition to HIV, other sexually transmitted diseases were also found to be more common in MSM patients receiving treatment. MSMs are exclusively motivated to find partners online looking for casual sex rather than romantic relationships. Condom negotiation or HIV status disclosure is not an issue for them, and this could explain the relationship between sex-oriented social media application use and high HIV risk (Winchester III et al., 2012). We suggest that these risky behaviours among diagnosed HIV patients should be investigated for future research. Hence, we offer the literature the acronym “Sex-Oriented Social Media Application Harm (SOSMAH).” Hornet can be considered a sexual network rather than a social network. However, it is essential to note that sex-oriented social media platforms may also reduce HIV risk. These areas can be used as instruments for spreading HIV prevention messages (Bull et al. 2012); analysing social media platforms to understand and monitor HIV risk behaviours and epidemics (Young et al., 2014); using social media to gather participants for HIV-related studies (Young & Jaganath, 2013), and helping to increase the attainment of social support (Valkenburg et al., 2006). This sociological database needs to be well understood to develop preventive policies related to HIV.

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How Identity Informs the Bicultural Context of South African Indian Women Engineers

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Abstract: This qualitative study articulated the voices of 25 South African Indian women engineers through the exploration of their identities in a bicultural context. Data extracted from their life stories provided elucidation of participants' bicultural identity navigation. This applied firstly in a personal context, historically known for its culturally driven patriarchal undertones. Secondly, their professional context, in a career dominated by men and deeply rooted in gender partiality against women engineers. Findings of this research indicated the transformed application of Indian cultural norms evidenced by (a) growing family support of a career that would – under Indian culture – be deemed unsuitable for an Indian female, and (b) an unexpected finding: the rise of a paternal motivator that contributed to positive socialisation informing autonomous career decision-making by participants. The continued dominance of men in the profession presented as a strong negative indicator adversely impacting fluid navigation. This article contributed to the literature on identity and biculturalism by considering an insufficiently studied sample of women. The findings and recommendations of this article provided previously untapped information about the identity challenges faced by bicultural female engineers in a male-dominated profession.

Keywords: socialisation, gender, bicultural identity, engineering, Indian women, male dominance

1. Background

Cultural prohibitions imposed on Indian women can be traced back to the days of imported indentured labour and even before, stemming from the land of their ancestry, India (Meer, 1972; Jaga and Bagraim, 2017; Jaga, Arabandi, Bagraim and Mdlongwa, 2018). The orthodox Indian norms and values systems instructing the socialisation process of Indian women were deeply embedded in patriarchal dominance that would have Indian women believe in their subservience to men (Bell and Nkomo, 1998; Bharuthram and de Kadt, 2003; Littrell and Nkomo, 2005; Khan, 2012; Ahmed and Carrim, 2016; Carrim, 2016). Indians, in comparison to Euro-centric cultures, viewed action by humans as being pre-destined; age and seniority were highly valued and helped constitute the wise who would be decision-makers… namely men (Chakraborty, 1995). Indian women traditionally had one purpose: the role of subordination (Carrim, 2012; Carrim and Nkomo, 2016). For South African Indian women, socialisation during early childhood and into adulthood favoured male over female, giving the former the ranking of head of household and the latter, subservience to her male counterpart with little to no agency (Meer, 1972).

The ripple effect of racism and sexism from apartheid South Africa presents in the post-apartheid era as women of colour access opportunities in the workspace. This is evident with White males still dominating top and senior managerial positions, particularly in the private sector (Carrim, 2012). The Employment Equity Act No. 55 (1998) opened up opportunities for women in the workspace (Landman and O'Clery, 2020). However, implementation focused on race with only limited attention being given to gender inequalities (Landman and O'Clery, 2020). Discrimination against women in the workplace continues with men remaining dominant, delaying equal opportunities for all South Africans, especially women (Booysen and Nkomo, 2010; Musetsho, Isac and Dobrin, 2021). With women now occupying professions previously dominated by, and deemed "for men", a sense of unease presents. This is caused by historic stereotypical perceptions about gender roles, with the notion of man being the "ideal worker" (Schein, Mueller, Lituchy and Liu, 1996; Ryan, Haslam, Hersby and Bongiorn, 2011; Wong, Liu and Klann, 2017). The engineering space is one of the most contested male-dominated spaces now shared by women (Hewlett, 2008).

"Historically, women have faced systematic barriers with regard to their participation in science, technology, engineering, and mathematics" (King Miller, 2017:1). Barriers were fashioned from perceptions about the identities and roles of women that were current during past regimes of oppression (Hooks, 1989; Nath, 2000; Acker, 2006; Carrim, 2016). These perceptions ultimately gave rise to then-pervasive social inequalities that led

to the inequalities currently apparent. Over the years, gendered ideologies have injured the psyche of women in terms of self-perception of their potential abilities in the engineering field (Triandis, 1989; Bell, 1990; Moreno, Besterfeld-Sacre, Shuman, Wolfe and Atma, 2000; Miramontez, Benet-Martinez and Haritatos, 2005; Sanchez-Hucles and Davis, 2010; Qureshi, 2014; Gordon, 2018; Mayer, Surtee and Mahadevan, 2018). The attrition rates of women in the Science, Technology, Engineering and Maths (STEM) fields remain a concern (Hewlett, 2008; Fouad, Chang, Wan and Singh, 2017). According to the Businesswomen's Association of South Africa (BWASA), there is clear evidence of a disparity between the pass rates of female STEM graduates (21,2 percent) and their actual representation in the workforce (7 percent) (BWASA, 2017). This disparity was attributed to the influence of societal perceptions about the role women should play. Roles dictated by culturally oppressive gendered norms and values had infiltrated the workplace to reinforce an androcentric notion of "normalcy", or "the accepted way of life" (BWASA, 2017). Stereotypes associated with the meanings of femininity and masculinity in society influenced attitudes toward women in the STEM fields (King Miller, 2017). Among the barrage of challenges that faced, and continue to face, South Africa Indian women engineers, identity remains a constant. Gaining a deeper understanding of this sample of women will allow for appreciation of some of the challenges faced by these engineers.

2. Research question

How does identity inform a bicultural context for South African Indian women engineers?

3. Literature reviewed

This section delved deeper into the identity and biculturalism of South African Indian women engineers

3.1 Identity

Social Identity Theory offered an understanding of identity, suggesting that groups internalised with an intended positive impact on a member's sense of self (Tajfel and Turner, 1979). "Categorisation in terms of a group membership, and having defined themselves in terms of that social categorisation, individuals seek to achieve or maintain positive self-esteem by positively differentiating their in-group from a comparison outgroup" (Jenkins, 2014). An individual's interface with the wider world obfuscated the nature of this phenomenon and rendered it fluid, as opposed to permanent, indicative of the complexity of this phenomenon (Lincoln and Guba, 1985). "Systems of meaning" referred to societal response to the question of identity that advocated hierarchical groupings based on social classifications of individuals in terms of race, gender, ethnicity and class (Crenshaw, 1989, 1991). These "systems of meaning" exacerbated oppression (Turner-Zwinkels, Postmes and Van Zomenen, 2015). The presence of multiple identities within the self in relation to the social world has the ability to affect an individual's sense of personal wellbeing, coping mechanisms, levels of self-esteem, levels of stress and behaviour towards others (discrimination) (Turner-Zwinkels *et al.,* 2015:1). Identity cannot therefore be explored as a static notion but is instead a multidimensional state of change (Hooks, 1989; Crenshaw, 1991). Each identity tag interacts, influences, enables, inhibits, shapes and reshapes an individual's history (Huynh, Nguyen and Benet-Martinez, 2011).

3.2 Biculturalism

Hooks (1989) speaks about the bicultural phenomenon when she refers to the radical openness of the "margin" space. "A marginal person is one who lives on the boundaries of two distinct cultures, one being more powerful than the other, but who does not have the ancestry, belief system, or social skills to be fully a member of the dominant cultural group" (Bell, 1990:463). A person who occupies space on this boundary is thus considered to be in a marginal space. "Understanding marginality as position and place of resistance is crucial for oppressed, exploited, colonized people" (Hooks, 1989:21). Biculturalism represents comfort and proficiency with both one's heritage culture and the culture of the country or region in which one has settled. As bicultural individuals, South African Indian women engineers had to navigate between contexts framed by differing cultural value systems, each having its own set notion of the role of women.

3.3 Bicultural South African Indian Women

The experience of the South African Indian woman as a minority is deeply entrenched within systems of oppression based on androcentric European ideologies (colonialism and apartheid), further exacerbated by the ideologies of her own diaspora plus her post-apartheid challenges (Meer, 1972). The presence of South African Indian women in the STEM professions indicates that there is more flexibility for entry into spaces historically

dominated by men. However, whether this reflects a trajectory towards changing perceptions around the role of Indian women is still to be determined, given that historically, most Indian women have been raised in homes following traditional patriarchal ideologies (Meer, 1972; Batliwala and Dhanraj, 2004; Govinden, 2008; Carrim and Nkomo, 2016). Their social conditioning led them to believe that their joining a "male" profession made them outliers from their Indian identity. The subjugation endured in their traditional home and community is just one level of oppression they experience following their failure to conform to the expectations of their cultural context (Jaga *et al.,* 2018).

4. Methodology

This study was exploratory in nature with a qualitative design. Qualitative research aims to provide specific understanding of a phenomenon based on the understandings of those experiencing it (Alharahsheh and Pius, 2020:40). Qualitative research is interpretive and focuses on real, located practice, and is based on an interactive research process involving both the researcher and social actors (Creswell and Creswell, 2017).

4.1 Sampling

A non-probability sampling strategy was adopted and effected through a snowballing technique to purposively secure candidates fitting the eligibility criteria. Merriam (2009) describes a non-probability sampling strategy as being based on the assumption that the investigator wants to discover, understand and gain insight, and therefore must select a sample from which the most can be learned. The criteria for eligibility required that participants be South African-born Indian women, professionally registered engineers, currently employed or practising as engineers, with a minimum of five years' work experience as engineers, at least 25 years of age, and be based in any province in South Africa. Twenty-five South African Indian women engineers from both the public and private domains participated in the study.

4.2 Analysis

Braun and Clarke's six-step process of collating and analysing data was used for this study (Braun and Clarke, 2006). Data was collected through semi-structured interviews involving face-to-face meetings or digital platforms such as Skype or WhatsApp. Transcriptions of the interviews were sent to participant to ensure reliability and validity. Lincoln and Guba (1985) proposed using two different approaches to qualitative study to deal with the reliability and validity issues and ensure trustworthiness and authenticity. The following was applied for this study:

4.3 Triangulation

This process entailed using more than one method or source of data in the study of social phenomena (Bryman, 2012). Two sources of data were used, namely literature (global and national) pertaining to the areas under research, and semi-structured interviews. The study also adopted two methods of analysis, namely three-dimensional analysis and thematic analysis.

4.4 Findings

Key themes to emerge from the participants' storytelling were negotiating and navigating a bicultural identity, societal perceptions about women, and women engineers in a male-dominated space.

An association was evidenced between the level of application of Indian cultural norms and values, that is, cultural looseness, tightness and subtle tightness, and how such application informed negotiation and navigation of a bicultural identity for a South African Indian woman. Participants' accounts of early childhood and adolescent experiences articulated a range of experiences in terms of homes still adhering strictly to cultural norms (cultural tightness), those applying a certain degree of "subtle tightness", all the way to a family that applied so-called cultural looseness. Most participants depicted the last: being able to exercise their voices without restraint, indicating a transformed socialisation that supported the positive growth and development of a woman's identity. Out of the total 25 participants, 23 described their families as being strongly supportive. An unexpected find was the rise of the paternal motivator. When asked who motivated their career choice, the majority of participants indicated it had been their father. PrEng08 stated: "*I was encouraged to do it, my dad who wanted me to be independent, he showed me how to change a tyre. We fix things together*." PrEng10 stated that *"my dad was a 100 percent. He says: 'Understand, these are the… the holdbacks, or these are the negatives,*

these are the positives. You're happy with it, you go ahead.' " Only two participants depicted other experiences, with one stating: *"My dad was, he was quite upset, that I decided to choose engineering as a career, instead of anything else that he recommended."* This was interesting given that historically, Indian cultural norms were known for their patriarchal undertones that placed women in the role of caregiver and as subservient to men.

Within the main theme of societal perceptions about women and women in male-dominated spaces, there was a predominant element of gender taking precedence over race, society's gendered understanding of engineering, and the continued dominance of men in engineering.

Participants' storytelling indicated that the gender identity tag took precedence over race, with the former informing societal perceptions about women in their workspace. Participants advised that societal perceptions inevitably fed into the way women in engineering were viewed by individuals in their personal and professional spaces. PrEng16 stated: "*My grandma asked me if I'm gonna be making glue, as she heard of an engineer that works in a Pritt factory*." PrEng20 said her grandmother thought an engineer changed streetlights. These statements are indicative of the lack of understanding of the profession. Moreover, there was an assumption that because engineering was male-dominated, the work could not be done by a woman. Some participants perceived this as concern felt by their families about the conditions under which women would have to work, given that the space was dominated by males. Participants pointed to three careers that were perceived in the Indian community as being "superior" and acceptable for women. Some participants' parents tried to steer them to choose one of the three preferred paths, indicative of the need to conform to society's demands.

In the professional space, participants noted the unease their presence caused, especially on-site. PrEng13 stated: *"They, basically don't wanna teach you anything. They would take the male engineers. They will take them, show them and teach them but with me they would sideline me. They would leave me and tell me to read books or watch videos.*" PrEng11 stated that the chief engineer told male interns *"women belong in the kitchen,"* and *"it is not the first time that I have heard that in my career".* PrEng10 stated: *"The one thing that really hurt me was maternity leave. It's almost frowned upon."* Only three of the 25 participants described gender and race as working against them in their professional space. One stated: "*I hired my retired boss because they would listen to him; he was White with grey hair.*" Eight of the 25 participants advised that they had been mentored by senior male engineers. These participants narrated how mentorship by a *male* engineer contributed to them being accepted into the profession by other male counterparts. Negotiating and navigating proved to be challenges, with negative experiences relating to the identity tags of gender and race, especially in their professional spaces. These experiences activated a flight-or-fight response, the former being the least likely option, given the silence that organisations exuded in the face of such negative work environments.

Narratives elicited in this study evidence the transformation of cultural socialisation that advocates the positive and meaningful inclusion of women. However, the ongoing stereotypical perceptions that are prevalent in the culture of the professional space continue to disadvantage women in engineering.

5. Discussion

Hooks states that "to be in the margin is to be part of the whole but outside the main body" (1989:20). She was referring to the identity of women of colour, whose existence and relevance are driven by birth alone. Their intersectional identities are governed by a socialisation where the relevance of existence is relegated to a marginal space (Hooks, 1989; Du Bois, 1969; Crenshaw, 1991; Wong *et al.,* 2017). Further investigation has established that the interlocking nature of the processes of differentiation/social association (racialisation, ethnicisation, gendering) within systems of domination (colonialism, sexism, patriarchy, racism, apartheid) isolates the experiences of some women as uniquely different to others, thus leading to the identity of "otherness" (Hooks, 1989; Acker, 2006; Carrim, 2016). The experiences of some participants differed in terms of their socialisation highlighting otherness, even among a racial grouping within which one might expect homogenous narratives (Hooks, 1989). Although this otherness that each woman carries makes her unique through her experiences that differ from other women, there is still a shared commonality. This is expressed in the way a woman's identity is fashioned by society as "soft and weak", while a man is presented as being "tough and strong". These perceptions informed an "oppressive altruism" that positioned men as women's caregivers and gatekeepers (Qureshi, 2014). Two participants described the subordination that their husbands expected from them, based on cultural roles assigned to Indian women. This stereotyping infiltrates the workspace where male engineers treated participants with disregard because of their gender, sometimes coupled with their racial

identity. The coupling of inequality regimes and the socialisation processes led to categorisation through the formulation of hierarchies and ranking, which emphasised not only gender, but race, giving rise to a "double jeopardy" experienced by ethnic women (Govinden, 2008; Barnes, 2017).

Studies speaking to the identity work Indian women managers engaged in, trying to control their bicultural identity, showed they were still seen as minors, dependent on the men: from father to brother, upon marriage to husband, and as a widow to their sons (Carrim, 2012). However, narratives developed in this study evidence a changed socialisation process through the supportive family and the rise of the paternal motivator. At the same time identity work was described by participants, involving splitting the self between the indifferent engineer at work and the individual outside work …the "real self" (Collinson, 2003). Alvesson, Ashcraft and Thomas (2008) stated: "Individuals craft a self-narrative by drawing on cultural resources as well as memories and desires to reproduce or transform their self." This cultural frame-switching is used as a situational response to the male-dominated work context that participants must successfully traverse (Meca, Eichas, Schwartz and Davis, 2019). Preconceived notions about the profession, coupled with the space still being dominated by men, further intensified this "belief" in engineering as a male profession that is unsuitable, or an odd choice, for a woman. The ideal worker in this space is perceived as male, thereby marginalising women (Acker, 1990, 1998). Eight participants explained how mentorship by white male engineers helped them to build confidence in their profession and, to an extent, "allowed" them to be accepted by other male engineers. It was apparent through their storytelling that the identity tags of race and gender still disadvantaged them as women in their professional spaces. Black, Coloured or Asian women who have been oppressed as a result of their many constructed identities carry the burden of complex construal about self – something that women of privilege do not experience (Sanchez-Hucles and Davis, 2010). The strong socialisation process experienced by the majority of participants, with some participants' fathers motivating and encouraging them to not let race or gender hold them back, is perhaps the reason these women maintained positive social cognition and continued to be career-orientated. Highly educated women tend to have a strong awareness of gendered inequality (Harnois, 2015). According to Bullough, Moore and Kalafatoglu (2017) this is perhaps the greatest hurdle that women must face in terms of gender stereotyping, more so when such bias is frequently camouflaged, rendering it difficult to address (p. 212).

6. Recommendations

6.1 Future research

It would be valuable to understand this change in a community that historically has been known for strong patriarchal value systems enforced in the household. In a new development, the patriarch assumes the role of motivator and supports empowerment and agency for certain participants. Perhaps this variable should be explored in the course of a comparative study on South African Indian women engineers who have exited the field. This would establish the power such a variable holds in regard to socialisation and associated behaviour of bicultural South African Indian women engineers.

6.2 Practical implications

Participants alluded to the lack of preparation they had received at their respective higher education institutions in relation to the gendered dynamics they encountered when they entered the workspace. A discussion on curriculum review is important if higher education institutions are to build a learning environment that informs a genderless working environment.

7. Conclusion

Advances are being made, but not to the extent of breaking the current vicious cycle. As more women are becoming aware of their potential to contribute in the field of engineering, acute responses must be applied if "cavities within the engineering space" are to be completely eradicated, so that women do not feel suppressed or undermined. The stories related in this study are testament to the armour these participants must wear in their bicultural space to enable them to face the reality of the situation and choose either to take a step closer to the door labelled EXIT or instead, fight tooth and nail, refusing to be placed under duress or demoralised because of their anatomical make-up and the embedded negative perceptions that society has been guilty of attaching to the identities of South African Indian women.

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Advanced Strategic Platform for Inclusive Research Environments (ASPIRE): A Tool for Change

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Abstract: In recent years, organisations have been striving to adopt a proactive approach towards reducing discrimination and enhancing inclusion. Research performing organisations, in particular, have made substantial investments and adopted a number of policies, programmes and interventions to combat gender inequality. Despite the progress achieved, gender equality in research and higher education institutions deems to be particularly difficult to attain, with the same challenges remaining prevalent for decades. Among the contributors to the perpetuation of gender inequality in academia, is the inability of gender equality initiatives to challenge gendered norms. Partly because the focus of such initiatives remains on normative constructions of gender, and their implementation is based on the assumption of culture change through instrumental drivers. Consequently, as long as success and impact of equality initiatives remains solely associated with the introduction of new policies, rather than the transformation of entrenched behavioural and culturally-prescribed norms, significant, continuous and integrated change is unlikely to occur. To address these issues, the Advanced Strategic Platform for Inclusive Research Environments (ASPIRE) offers an innovative and evidence-based framework aimed at accelerating meaningful change in attitude and behaviour towards diversity and facilitating inclusive research environments. ASPIRE encourages the focus of enquiry to expand from the (re)production of inequalities and adoption of solutions that centre on improving staff statistics and performance metrics, to long-term interactive processes of change that can generate structural and embedded impact on organisational culture. ASPIRE provides a dynamic web-based platform for implementation, adoption and sustained Equality, Diversity and Inclusion (EDI) practice. It goes beyond the current EDI approaches by taking a holistic and intersectional perspective, that does not only address issues of gender, but accounts for other personal characteristics that contribute to unique experiences of discrimination. It appropriately guides and measures the implementation of EDI initiatives across institutions, linking such measurement with indicators of change in attitudes and culture, and providing recommendations for future and further action.

Keywords: equality, diversity, inclusion, web-based platform, culture change

1. Introduction/background

In recent years, organisations have been striving to adopt a proactive approach towards reducing discrimination and enhancing inclusion. Research Performing Organisations (RPO), in particular, have made substantial investments and adopted a number of policies, programmes and interventions to combat gender inequality. Despite the progress made, however, gender equality in research and higher education institutions remains particularly difficult to attain (Powell, Ah-King and Hussénius, 2018). Structural challenges, such as vertical and horizontal segregation, gender pay gap, disproportionate barriers to recruitment and career progression also remain prevalent (European Commission, 2019). Organisations are transmitters of conventional ideologies, importing behavioural norms entrenched in culturally prescribed forms (Mihăilă, 2018). Their policies, procedures and informal work practices reproduce existing normative constructions of gender (Connell, 1989; Ely and Meyerson, 2010; van den Brink, 2015). Among the contributors to the perpetuation of gender inequality in academia, is the inability of gender equality initiatives to challenge gendered norms and have impact that creates structural and embedded change (Mergaert and Lombardo, 2014; Powell, Ah-King and Hussénius, 2018).

Gender inequalities in academia are often explained as the result of sex-role socialisation that produces differences in attitudes and behaviours between men and women. Due to these socialised differences, it is argued that women have not developed the appropriate skills and traits, and such differences further impact ambition, motivation and perceptions of merit. Interventions designed under this perspective (e.g. training, mentoring, networking), aim to develop women's skills that are considered essential for success, thus enabling them to perform as well as, and compete with, men. Despite being quite popular and widely implemented, interventions within this perspective, frame gender inequality as a 'women's issue', viewing women as the

source of the problem, while leaving the system and 'male' standards intact (Ely and Meyerson, 2000; Subašić et al., 2018).

Taking the opposite approach to solve this problem are interventions based on the idea that socialised differences should not be eliminated but valued and celebrated instead. Gender inequality in organisations is conceived as a consequence of behaviours, styles and forms of work traditionally perceived as 'masculine' being valued, and those traditionally classified as 'feminine' being devalued or suppressed. Interventions developed within this frame (e.g. awareness-raising activities, training, rewards) attempt to give voice to a woman's perspective and celebrate gender differences. Many organisations take this approach, attempting to make staff aware of 'gender differences' in styles, skills and perspectives, and their value. Critics have argued that this approach can legitimised perceived gender differences and reinforce gender stereotypes (Ely and Meyerson, 2000; Ridgeway, 1997). Furthermore, the structural sources of inequalities and processes remain in place.

Organisations have adopted increasingly transparent recruitment and promotion processes and policies that support work-life balance, aiming to eliminate or compensate for structural barriers to women's recruitment and advancement. Policies implemented under this framework explain gender inequalities as a result of differential structures of opportunity and power that impede women's progress, give them less access and fewer resources. Such policies have been widely criticised for having little impact on organisational culture and systemic change (e.g. Ely and Meyerson, 2000; van den Brink and Benschop, 2012).

Interventions under these 'traditional gender perspectives' can be helpful and have the potential for transformational change (De Vries and van den Brink, 2016; Leenders, Bleijenbergh and van den Brink, 2019; O'Connor, 2014). Their impact, however, is usually associated with the introduction of new policies and practices rather than the evolution of organisational culture. Consequently, there is little evidence of impact on the quality of the experience that staff are exposed to within these organisations, highlighting their failure to change gendered norms and work practices (Benschop et al., 2015; Ely and Meyerson, 2000; Eriksson-Zetterquist and Styhre, 2008).

To address these limitations, the Advanced Strategic Platform for Inclusive Research Environments (ASPIRE) encourages the focus of enquiry to expand from the (re)production of inequalities and adoption of solutions that centre on improving staff statistics and performance metrics, to long-term interactive processes of change. ASPIRE offers an innovative and evidence-based framework aimed at accelerating meaningful change in attitude and behaviour towards diversity and facilitating inclusive research environments by generating structural and embedded impact on organisational culture. The ASPIRE framework does not only address issues of gender but takes an intersectional approach, accounting for other personal characteristics (e.g. race and ethnicity, disability, sexual orientation, gender identity and class) that contribute to unique experiences of discrimination.

2. ASPIRE model development

The ASPIRE project, funded through the Engineering and Physical Sciences Research Council's (EPSRC) Inclusion Matters Programme, started in January 2019. The methodology adopted a mixed methods consultation approach and was divided into three stages.

Stage 1: Initial evidence gathering and stakeholder engagement

During the first stage of the data collection, desk-based research was conducted to review, synthesise and evaluate empirical evidence on EDI related challenges and key barriers, interventive practices, impact monitoring processes and unmet needs. Publicly available data (e.g. organisations' websites, EDI strategy documents and action plans) and existing literature on EDI were analysed and reviewed.

Documents allow for inferences about institutions to be made as they represent situational embedded conceptions of their creators (Wolff, 2004). Thematic analysis of EDI strategies and action plans allow for an exploration of implicit cultural messages regarding inequality in academia and the framework in which policies and interventions are designed. A total of 135 EDI strategies and action plans from European organisations (mainly located in the UK) were subjected to a thematic analysis. The final themes emerged from the data, following multiple rounds of coding and analysis resulting from full engagement with the text. The initial data analysis focused on inclusion and diversity related challenges that RPOs are currently attempting to address in

their strategies and action plans. Once all challenges were coded and organised, the relevant coded data extracts were sorted into themes. Subsequently, themes were refined and discussed among the research team to form a coherent pattern and resulted in the final eight categories used to analyse the data: policy and practice; leadership; teams; behaviours; social inclusion; spatial inclusion; research performance and outputs, and student experience. Challenges were grouped accordingly under each theme.

Alongside this analysis, all identified initiatives and interventions being implemented to address the challenges, along with their effectiveness, were collated. Evidence from relevant literature was gathered and used to evaluate the impact of the interventions. The range of challenges and interventions cited in the strategies and action plans reflected a complex process that despite its uniqueness shared some similarities across institutions.

The subsequent data analysis involved a validation workshop with relevant stakeholders to gather their perspectives and feedback. The stakeholder group included EDI experts and practitioners, RPOs, researchers (with intersecting identities and across a range of career stages), publishers and Research Funding Organisations (RFOs). The consultation workshop led to the finalisation of the challenges and assessment of the interventions.

Stage 2: Stakeholder interviews to assess organisational culture

To extend the themes identified and conduct a more rigorous evaluation of best practice with respect to EDI, 30 in-depth semi-structured interviews were conducted with different types of stakeholders, lasting on average 43 minutes (see Table 1). Interview data were analysed inductively using thematic analysis. After familiarising ourselves with the dataset through reading and re-reading transcripts, data were coded based on themes previously identified during the first stage of data collection. The data were also subjected to intersectional analysis. Emergent new themes were developed where appropriate. This resulted in further refinements to the proposed content which represented the core components of the ASPIRE framework.

Table 1: Summary of interviews conducted

Stakeholder type	Number of interviews
Research Performing Organisations	3
Researchers	15
EDI experts	4
Centres for Doctoral Training	2
Trade unions	2
Publishers	1
Research Funding Organisations	3

To develop the impact indicator framework, and thus provide the means to measure progress towards embedded impact and EDI related culture change, a cross-sectional design was adopted and supported by quantitative statistical analysis. Data were generated by means of a questionnaire and collected in seven RPOs. Participants were recruited through advertisements on organisations' websites and emails shared by organisations to their staff. Participants were asked to complete an online questionnaire on their experiences and perceptions of their working environment. The completion of the questionnaire took 15 minutes on average. Participants were then thanked and debriefed. Participation in the study was voluntary and anonymous.

The questionnaire allowed for a comprehensive evaluation and the establishment of an institutional baseline for organisational culture. It included measures related to:

- **Diversity readiness**: attitudes towards disability (adaptation of Loo, 2002); attitudes towards LGBT (authors' own, 2019); organisational racial and ethnical discrimination (James, Lovato and Cropanzano, 1994); organisational sexism (adaptation of Rubin et al., 2019); perception of organisational diversity (authors' own, 2019) and diversity by career stage (authors' own, 2019);

- **Work environment**: Diversity climate (Mor Barak et al., 1998); psychological safety (Edmondson, 1999); work-life balance support (Hammer et al., 2009).
- **Organisational commitment** (Meyer, Allen and Smith, 1993);
- **Sociodemographic characteristics** (gender identity, age, ethnic background, religion, sexual orientation, disability status, caring responsibilities, role (senior leadership; academic, professional staff, research student).

Data were collected from 634 (274 female, 124 male and 236 not disclosed) members of staff and postgraduate research students. The results of the questionnaire were integrated into the ASPIRE framework and used to establish rigorous, multi-level, sequenced and meaningful indicators of embedded impact. Impact indicators (i.e. directional change goals) were identified through reviewing and coding the collected data and by consulting key sector representatives (strategic leads, institutional EDI staff and those representing key demographics).

Stage 3: Developing the ASPIRE 8-Pillar Model

The ASPIRE model, currently comprising eight pillars that define an inclusive research environment (Figure 1), was developed through a theory of change (Weiss, 1995). It provides a whole institution, integrated and holistic approach to building EDI strategies and the mechanism to evaluate change. Each pillar is 'achieved' by overcoming a series of challenges through completing intervention activities. Based on the data collected, two levels of challenges were generated. The first is the high-level challenge – the fundamental barriers to change – and the second is the contributory challenge – a series of stepwise challenges that together define the high-level challenge. In this way, incremental progress can be monitored, measured and evaluated against defined impact indicators.

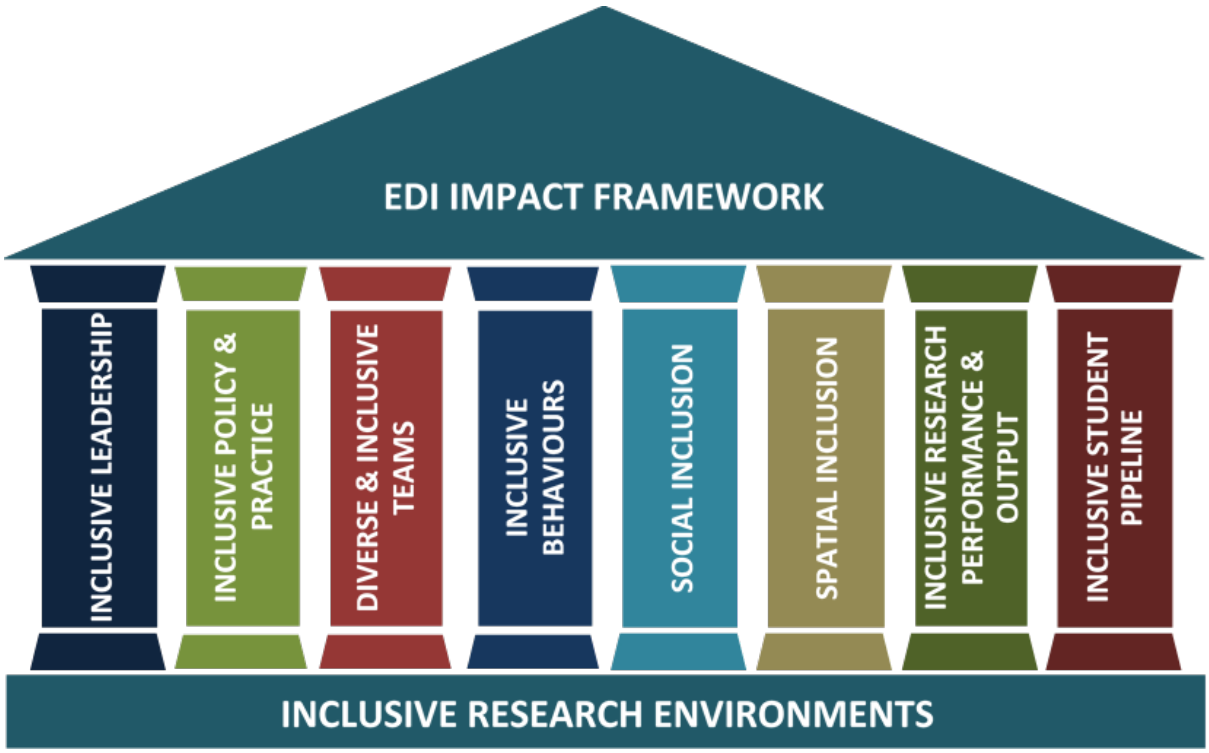

Figure 1: The ASPIRE 8-pillar model

3. The ASPIRE user tool – the user's perspective

ASPIRE is a web-based platform that is underpinned by research and designed to grow and adapt to new knowledge and evidence. It allows the user to define its organisational / departmental / research group challenges or goals from an EDI perspective, and measures progress in terms of increasing EDI literacy and changes in attitude and culture. The starting point is to establish the user benchmark – how far along the EDI journey are you? This benchmark is used to monitor progress. Once you have defined your goals, the platform will lead you through the recommended interventions – these will complement the interventions you have

already established. You can either reject or accept the intervention, based on an informed choice, and your bespoke strategy will begin to build. Each intervention comes with its own change/impact indicators and advice on how to implement the indicators within a monitoring strategy. The platform is designed for the user to self-audit progress against defined goals (Figure 2).

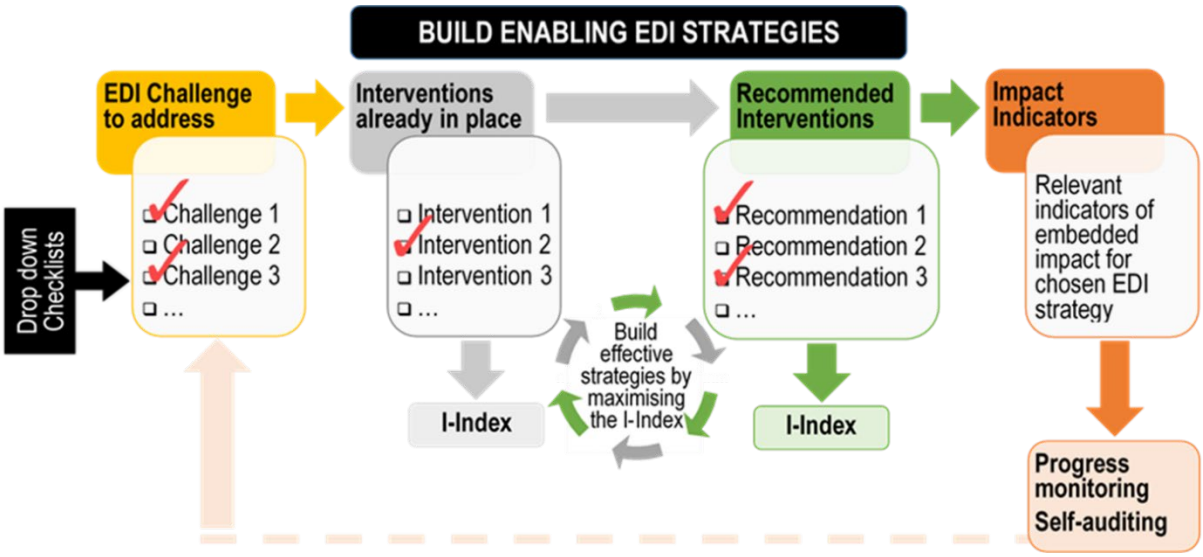

Figure 2: Schematic of the ASPIRE user tool, illustrating the iterative process for building enabling strategies

The ASPIRE Model introduces the concept of the 'i-index' (a purely internal index process). The i-index is used to establish the user benchmark at the outset, and as a means to monitor/measure user progress and EDI literacy growth (Figure 3). A key assumption of the model is that all interventions need to be completed and impact evidenced in order to fully 'achieve' the pillar. These are defined as the conditions for success. If all interventions are completed and all change/impact evidenced, then I = 100%.

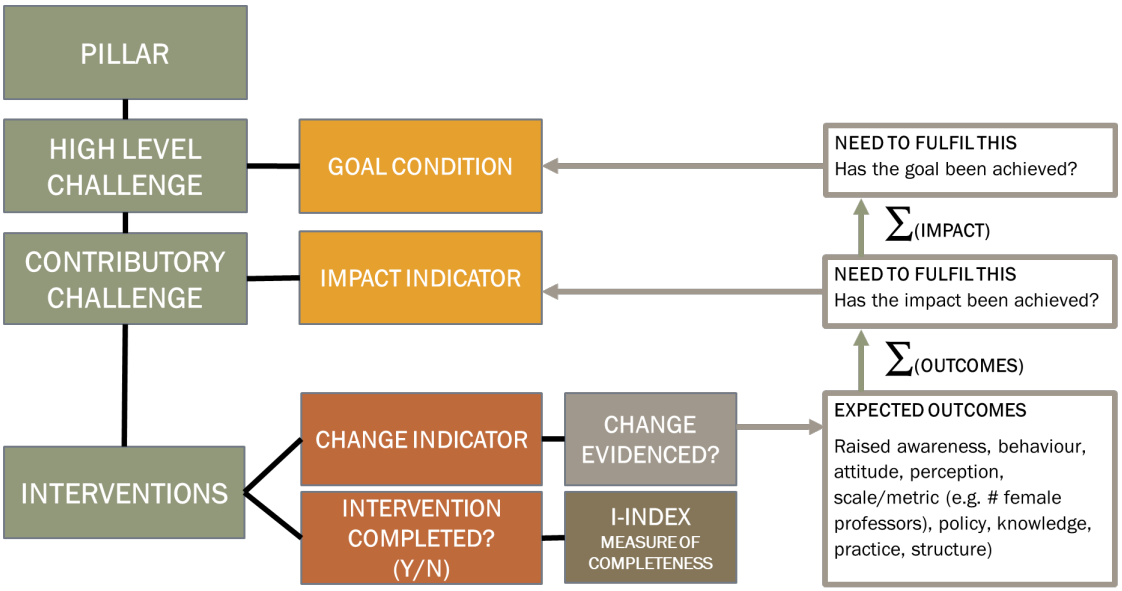

Figure 3: Measuring progress with the ASPIRE model

Since interventions may well impact more than one 'challenge', the model recognises interventions as having different 'reach' (Figure 4). Interventions with more 'reach' are likely to be more impactful within the EDI strategy, and hence a more efficient and cost-effective approach. The concept of 'reach', therefore, is used to prioritise interventions – and is used to inform user choice.

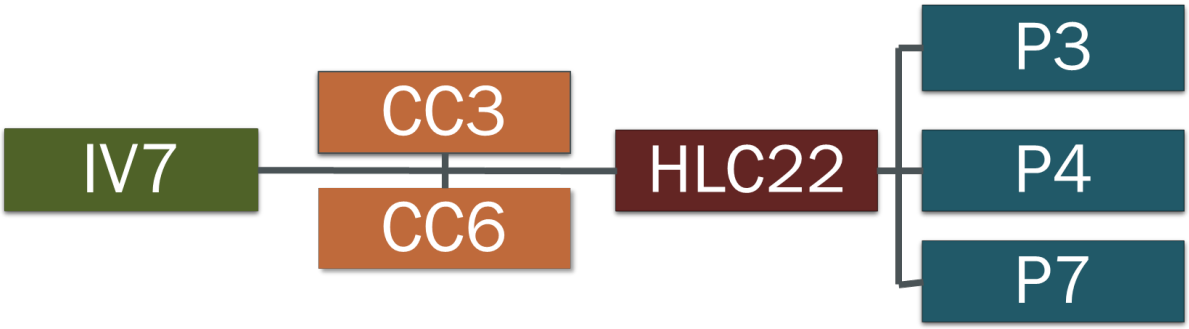

Figure 4: The concept of 'reach' is utilised in the model to prioritise interventions and to inform user choice. An intervention (IV) may address more than one contributory challenge (CC), high-level challenge (HLC) and/or pillar (P). The more challenges addressed, the impactful the intervention is likely to be

The ASPIRE platform is due to be available mid-2022.

4. Discussion and conclusion

One of the main contributors to the perpetuation of gender inequality in academia, is the inability of gender equality initiatives to challenge gendered norms and have impact that creates structural and embedded change. ASPIRE proposes a systemic approach that extends simple metrics-based evaluations and includes a comprehensive evaluation of attitudinal and behavioural change. It compels organisations to examine and reorganise their structures, processes and culture in order to achieve meaningful and equitable change.

ASPIRE offers an innovative framework that allows users to continuously identify and disrupt oppressively gendered (and other) practices and guides them on how to revise and appropriately measure their implementation, linking it with meaningful markers of culture change. As a consequence, ASPIRE will enhance our understanding of how organisations can move from reproducing 'traditional' gendered norms and change their practices and culture to address diversity and inclusion. ASPIRE acknowledges that social identities do not function independently of one another and takes an intersectional approach. By accounting for a range of personal characteristics that contribute to unique experiences of discrimination, ASPIRE attempts to provide a more accurate representation of lived experiences and to move away from unidimensional group comparisons.

The ASPIRE toolkit provides a new evidence-based resource synthesising EDI best practice, that will allow customisation of the EDI strategy the user wants to develop, constant monitoring of progress and enhancement for dynamic strategy development. Consequently, ASPIRE will improve the process of reviewing and modifying existing inclusion-related practices.

By reducing barriers to inclusion at individual, departmental, and institutional levels, ASPIRE will improve organisational capabilities in strategic decision-making (re. EDI), evaluation, tracking and review.

ASPIRE has the potential to have a long-lasting impact across the sector generating improved and sustainable inclusive research environments.

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Secondary End-Users' Perspectives on Gender Differences in the use of eHealth Applications in Older Adults

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Abstract: In the digital age, people with low digital skills and low digital literacy face marginalization. Here, the area of healthcare and its rapid digitalization deserves special attention, as the risks of health disparities increase for people with a low eHealth literacy. Within the AAL-funded project 'Got-IT: a toolkit for inclusive and understandable lifestyle data visualizations in eHealth solutions' (AAL-2020-7-51-SCP), we therefore aim to create an online toolkit to assist the design of inclusive eHealth solutions. As there already exists a large body of literature regarding (e)Health literacy in older adults that focuses on them as end-users of tools, apps etc. this study specifically focuses on secondary end-users of health applications in the field of healthcare. In this context, we conducted three focus group discussions with secondary end-users such as nurses, physiotherapists, psychologists, neurologists as well as social workers. As a result, it was noted that gender turned out to be an issue in terms of the familiarity and use of eHealth applications. The secondary end-users reported that the focus - when trying to be as inclusive as possible in familiarizing users with low eHealth literacy with health applications - should be on gender-sensitive use of language and gender-sensitive display of medical information. The results of our qualitative study give insights to gender-specific use of eHealth applications for older adults with low eHealth literacy, as well as recommendations of secondary end-users on how to take a more gender-balanced approach when developing, and familiarizing users with eHealth applications.

Keywords: gender, health applications, secondary end-user, digital divide, older adults

1. Introduction

Digital technologies have spread rapidly in much of the world. And while the digital revolution has brought immediate private benefits such as easier communication and information, as well as created a profound sense of social connectedness and global community, it also brought the digital divide.

When referring to the digital divide, we follow the OECD's definition of the term as "the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regards both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities" (OECD, 2001). This just defined divide however should not be understood as a sharp dichotomy. Many authors actually warn about using this metaphor, as it suggests a simple divide between two clearly split groups with a yawning static gap between them, which might be very difficult to bridge, while in fact the gaps observed are continually shifting (van Dijk, 2020). It is also important to mention that most inequalities of access to and use of digital technology are more of a relative kind, and not about absolute inequalities between those included and those excluded.

The constant further development of technology and ICTs has also given rise to different digital divides, as "digital inequalities are gaining new forms, shifting from a matter of access to a matter of intensity, frequency, and aim of Internet use" (Elena-Bucea *et al.*, 2021). While the first-order digital divide with its binary segregation of having, or not having access to ICTs has become outdated and imprecise, the second-order digital divide, representing ICT usage and proficiency, has become a relevant measure of digitalization. This distinct shift from the first-order digital divide representing unequal access to ICT, to a second-order digital divide embracing inequalities of skills and usage makes it clearly visible that people with low digital skills and literacy face marginalization (Elena-Bucea *et al.*, 2021). Here, the area of healthcare and its rapid digitalization deserve special attention, as the risks of health disparities increase for people with a low eHealth literacy. This is a challenge, as it is estimated that almost one in two Europeans have limited health literacy competencies (Sørensen *et al.*, 2015). When talking about eHealth literacy, we follow Norman and Skinner's definition of the term as the lack of the ability to "seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem" (Norman and Skinner, 2006).

Issues regarding inequitable access, usage or skills relating to ICT are strongly affected by sociodemographic factors such as age, gender, income, education, and ethnicity, which also have a huge impact on low eHealth

literacy and are associated with health disparities (Arcury *et al.*, 2020). With eHealth having the capacity to improve health outcomes, its systems need to match the (potentially low) eHealth literacy needs of the respective users.

One approach for equal access for people with low health literacy levels or other specific needs are purposefully designed, inclusive and understandable digital solutions. The 'Got-IT: a toolkit for inclusive and understandable lifestyle data visualizations in eHealth solutions' project, (hereafter described under the acronym Got-IT), addresses this need through the creation of an online toolkit that specifically supports the design of understandable, applicable and inspiring eHealth applications for older adults with low eHealth literacy (Simon, Prinzellner and Aumayr, 2021). Got-IT strives for understandable and applicable health data for the consumer and digital tools for all people, which includes better access to and sharing of health data (carried out under the Active Assisted Living Programme (AAL), which revolves around the mission statement 'Ageing Well in the Digital World'). Got-IT can also contribute to scientific innovation and the creation of new knowledge, due to scientific insights and applicable results which we collected and analysed in a co-creation approach with older adults with low eHealth literacy (Active and Assisted Living Programme (AAL), 2019). These specific considerations of engagement methods and materials will create insights for e.g., developers and designers of digital tools. The Got-IT project aims to promote healthy lifestyles and citizen empowerment among older adults with low eHealth literacy, as well as to contribute in the battle against health disparities in Europe (Cabrita *et al.*, 2020).

With older adults being primary end-users of the digital tools (i.e., the people who will use them), secondary end-users are persons who are in direct contact with primary end-users. As there already exists quite a large body of literature regarding (e)Health literacy in older adults that focuses on them as end-users of tools and apps (e.g. Arcury et al., 2020; Chesser et al., 2016; Choi & DiNitto, 2013; Hoogland et al., 2020), this study specifically focuses on secondary end-users of health applications in the field of healthcare, as there is a research gap when it comes to these user-types.

As gender is only one of many intersectional criteria that have effects on low eHealth literacy (especially in the population of older adults), the following chapter gives an overview on these mutual influences. Thereupon our research questions, as well as the research are being presented. The following chapter is dedicated to secondary end-users' opinions on eHealth applications, including their positive and negative experiences, as well as the role of gender aspects with these technologies and their users. Results are reflected in the conclusion.

2. Intersectional effects and low eHealth literacy

Sociodemographic factors and the socioeconomic status of a person can influence their eHealth literacy, as well as the degree to which they utilize personal health technology (Arcury et al., 2020). This can lead to serious health inequalities and possibly limit people's chances to live longer and healthier lives. Therefore, using an intersectional approach is recommended, as it takes into account the interweaving of different structural categories that generate inequality (Simon, Prinzellner and Aumayr, 2021).

Especially socially disadvantaged groups, such as people of older age, with less education, and lower income are at risk of becoming digitally marginalized, which could lead to a widening of health disparities (Cheng *et al.*, 2020). When looking into intersectional effects in the sector of low eHealth literacy, categories that show very strong influence are age and education. People with higher education are more likely to use the Internet in general, and for health information, than those with high school education or less (Arcury et al., 2020). With education playing a significant role in understanding health literacy, higher levels of education combined with younger people are therefore associated with higher health literacy. In the OECD's report 'Health for Everyone?' this is summed up, when stated: "No matter how it is measured, the least educated are more likely to be in bad health" (OECD, 2019).

The worldwide expansion of both the proportion of older adults in society, and innovations in digital technology play into the presence of a deep digital health divide (Cosco et al., 2019). Especially older adults over 65 have significantly lower eHealth literacy and are less likely to feel confident evaluating health resources on the Internet or knowing how to use health information found online. In this age group, computer stress maintained a significant inverse association with eHealth literacy and "older adults are currently the least likely age group to engage with such technologies" (Cosco et al., 2019).

These realities show a great need for educational interventions to help older adults successfully use technology and improve their eHealth literacy. Engaging with them in a meaningful manner, improving computer skills and limiting computer stress, as well as co-designing easy to use options, may be key to improve older adults' eHealth use and understanding thereof (Arcury et al., 2020).

In this age group (65+), there is another key predictor of internet use and online health information behaviour: Gender. There is a clear gender gap when it comes to internet use and self-directed health information seeking, which shows that women are more likely to engage in the latter. While more males use the Internet in general, they are less likely to use it for health information seeking. Men also have a lower trust in online (re)sources. Elderly women generally use fewer mobile services than men and are more likely to report greater levels of anxiety toward computers, less self-perceived competence, and lower perceived ease of use with respect to the internet as limiting factors for their internet usage (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2018). Therefore they still face greater barriers than men regarding access to health information and services online (Manierre, 2015). These gender differences are reasons behind internet use and possible withdrawal and thus can provide new perspectives in preparing strategies that encourage especially older female adults to keep learning and engaging (Chiu & Liu, 2017).

Gender also influences people's experience of and access to eHealth services, as women may experience a lack of training from their healthcare providers and for the health systems they use (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2018).

Barriers that prevent participation and inclusion are particularly relevant to consider in the ICT area, as their supportive potential is enormous. ICTs can also play an important role in achieving gender equality and enhancing women's empowerment and rights, as ICTs have the capacity to improve women's access to education, increase their involvement in politics, and enable women to report safety risks and access (mental) health services (Williams and Artzberger, 2019). As attention from politics and increasing societal awareness in general have also attracted the interest of developers and designers, high quality accessible and inclusive design is now more important than ever, especially as the benefits of accessible ICT services can be experienced by all people and not just specific groups (Persson *et al.*, 2015).

Here, the aspect of co-design is important, especially in the area of health applications. This field is particularly complex, as "clear risks may accrue to app users if the health information that is being accessed is erroneous, unclear or irrelevant" (Skuse *et al.*, 2021). While the need to involve users in app design processes is recognized in many places by now, many do not consider that co-design implies a process that is mostly non-linear, iterative, and frequently contested. However, it is precisely this contradiction that is important to note, "because a world of complexity, dialogue, creativity, tensions, naivety and sometimes incompetence is inevitably reflected in the app co-design process" (Skuse *et al.*, 2021). This also includes the analysis of problems that arise during this process, such as the app functionality, its visual appeal, and the digital and health literacies of the users. In fact, literacy issues are some of the most pressing problems associated with the app development process, which make user-centric approaches essential for tailoring to specific user needs and literacies. These are only a few complexities that make the process of user-centric app co-design "highly fluid, messy, often challenging and sometimes contested" (Skuse *et al.*, 2021).

Therefore, it is so essential for the Got-IT project to take the need for user engagement seriously, so that developers and other stakeholders can create new ways to engage with these issues more successfully when creating inclusive apps designed to benefit people with low eHealth literacy or other complex healthcare needs.

3. Research questions

While social support, health and wellbeing, internet use as well as health literacy of older adults have been studied with this specific target group as a focal point (Lam, Jivraj & Scholes, 2020; Heo et al, 2015; Shapira, Barak & Gal, 2007), perspectives and opinions of those working in the healthcare-sector - closely related to older adults - are still under-researched. Therefore, the empirical study was conducted with the target group of secondary end-users (e.g., health professionals und health related professionals) with a focus on their impressions of the use, familiarization, and problems, as well as benefits, of the use of eHealth applications among older adults they work with.

The analysis of the data was guided by the following research questions:

RQ1: What are the positive and negative experiences gained regarding eHealth solutions for older adults with a low eHealth literacy when using eHealth applications?
RQ2: What are the gender differences in the use of eHealth applications for older adults?

4. Research design

An explorative study with a qualitative approach was designed. In the study a total of three focus groups with secondary end-users were conducted. The secondary end-users were recruited via the network of the Johanniter Research and Innovation Centre. They were divided into different groups ranging from medical doctors to health care professionals and professionals working in a health-related field, to focus on the specific perspectives of the different levels of involvement with patients and older adults with a low eHealth literacy. Three participants took part in each focus groups discussion (n=9).

The focus groups took place in June and August of 2021 and had an average range from 45 to 90 minutes.

Because of the restrictions due to the COVID-19 pandemic, two discussions took place solely online, and one focus group discussion was conducted in a hybrid format (online participation as well as face-to-face participation).

The participants of the focus group discussions were briefed by the researchers beforehand and signed an informed consent letter. The discussions were recorded and transcribed. The transcriptions were anonymized.

The data was analyzed via a qualitative content analysis (Kuckartz, 2017).

5. Secondary end users' opinion on eHealth applications

Positive and negative Experiences

Concerning the positive and negative experiences the secondary end users referred to the following main findings (RQ1) (see table 1):

Table 1: Positive experiences

Time and location-independent use of eHealth solutions
Bottom-up approaches work best, when introducing new eHealth solutions
A low-threshold approach is ideal, when introducing new eHealth solutions

One of the main positive aspects the participants highlighted, were the flexible use of applications for the users. It is very important to take the time to give older adults the opportunity to familiarize themselves with new eTools for health. Here, a bottom-up approach is advisable. The acceptance of eHealth applications is far greater if peers educate each other and learn and foster new (health) knowledge within their social groups. Also, the process of introducing new eHealth applications should be approached at a slower pace as to not overwhelm the users. A positive word-of-mouth among the users seems to be very important to raise acceptance among older adults.

Table 2: Negative experiences

Not all eHealth applications are created for the same purpose (medical vs. health-related)
An abundance of eHealth solutions leads to a feeling of being overwhelmed, technical fatigue and technology stress
If there is a lack of support for the users in using the application, frustration leads to abandonment of the solution

According to the health professionals, there should be a clear distinction between health-related applications (e.g., step-count) and medical applications, which are used as part of medical treatments and therapies. This is especially crucial considering the rise in prevalence of chronic illness in older adults. The participants stated that technology must support the users in their health needs and improve their health status. Often, especially older adults with a low digital and eHealth literacy feel overwhelmed by the many devices they are being offered, which leads to technical fatigue. Additionally, not knowing how to set up the device to suit ones' needs, creates technology stress. Support at every stage (from the introduction of an eHealth device to using it as part of a daily

routine) is stated as highly important. "The support needs to be part of the system. To learn how to use the software, is not so complicated, if you have a guide." (Psychologist, focus group 3)

Gender Aspects and eHealth applications

Table 3: Gender aspects

eHealth applications should be designed in an inclusive, accessible, and non-discriminatory manner

Gender was one among many crucial aspects that were discussed regarding older adults' use of eHealth applications to benefit their own health and wellbeing. "I think there should be a distinction made between men and women. In modern medicine they also found out that there is a big difference between men and women. A modern eHealth application should therefore be designed, keeping these differences in mind." (Physiotherapist, focus group 2). The participants state, that if eHealth applications do not regard the physiological differences in the sexes this could lead to impactful decisions in terms of medical treatments and therapies. Additionally, there is more women in older age groups due to the differences in life spans. "We have more women in the support calls. But this is natural as in the full population of our age group and target group are more women." (Psychologist, focus group 3)

Language also plays an important role. Here, more intersectional aspects should be included when designing an eHealth app (e.g., language barriers, cognitive disabilities). The participants recommend opting for inclusive design elements whenever possible to address the needs of a broad and diverse user group. The participants agree that the socio-economic factors play a huge role in terms of accessibility (e.g., education, financial resources, previous experiences). If these factors are considered, when designing an eHealth application users have an easier time using the app. This can also increase the intrinsic motivation to stick to a routine using an eHealth application, thereby increasing the wellbeing and health of the users.

6. Conclusion

This study focused on the view of secondary end users and the positive and negative experiences as well as the gender differences they reported when working with older adults with a low (e)Health literacy and (e)Health applications.

The secondary end users highlighted the importance of including end-users in design processes. Here, the gender differences in the use of eHealth applications for older adults play an important role when the aim is to create high quality accessible and inclusive design solutions. As shown in other studies the rate of self-confidence related to being on the internet is higher in men than in women (Hunsaker & Hargittai, 2018), which could especially be true for older adults with a low eHealth literacy.

The positive experiences for older adults with a low eHealth literacy reported by the secondary end-users showed that bottom-up approaches are important, also in terms of introducing new technologies into daily routines for people with a low eHealth literacy. Support is another main area that must be taken into consideration when introducing new eHealth applications for target groups with special needs. Here, media literacy plays an important role. Older adults who can navigate the internet and receive social support online, also perceive offline social support as more positive (Benvenuti et al, 2020) which could help to foster the familiarization with new eHealth applications. Support should be available at all stages of the roll-out of an application. Here, gender is an important factor. Most of the target groups of older adults with a low eHealth literacy are women. Still, up to this day their needs are not considered (enough), when designing eHealth applications, which could potentially benefit their health and wellbeing and enable them to be part of their community for as long as possible.

This study can only be looked at as a first pilot study. In this paper the results of one of many stakeholder groups which should and need to be involved in the process of designing, supporting, and implementing eHealth applications for older adults with a low eHealth literacy, are considered. Studies on a larger scale must be conducted in the future.

From the data gathered, recommendations for eHealth developers can be concluded. Motivation is one of the key elements for a successful implementation and use of an eHealth app. The secondary end users agreed that the motivation among the users is a main factor. Also, the app itself should have a design that enables engagement (e.g., gamification). eHealth applications for people with low eHealth literacy, especially within the group

of older adults, should provide interfaces with other medical applications, to simplify the coordination of health treatments and therapies between different medical providers. The information provided in the eHealth application must be evidence-based, for this specific target group to enhance their knowledge on health and health related topics and to further foster their eHealth literacy. In terms of funding, the financial resources of the target group must be made a priority to guarantee access to necessary technical and digital infrastructure (e.g., apps). Most importantly an inclusive design of the digital applications is important to avoid discrimination and enable accessibility for all, especially considering physical changes due to age-related impairments (Farage et al, 2012).

Considering the vulnerable target group of this study, we suggest a stronger focus on more co-creative research projects, to design eHealth applications that suit the users' needs, in terms of inclusion and gender as well as age. When (co-) designing applications or other digital solutions, it has to be kept in mind that 1) "gender relations play a fundamental role in access to information and ICTs, 2) gender inequality is expressed in the use of communication technologies and 3) how these technologies are used by women" (Garcia, 2011).

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Emotions as a Lasting Leadership Learning in High-Potential Female Students

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Abstract: Women's underrepresentation in leadership positions is a well-known problem. The lack of self-confidence and training in leadership is highlighted in the literature as the two main barriers to women seeking managerial positions. Educational organizations have to provide leadership skills development and gain-oriented personal resources through women's leadership programs. Research demonstrates that emotions improve the learning process in educational activities. Nevertheless, to our knowledge, there has been little feminist research focused on how emotions modulate the learning process in educational leadership programs and how they promote students' personal change, which needs to last in time. To fill this gap, the objective of this study is to present an evaluation of the impact of emotions on a leadership program for female undergraduates, using a multi-source program assessment based on triangulation. The study analyzes the students' emotions during and after the university Women's Leadership Program (WLP), exploring their learning processes in the acquisition of formal leadership skills, personal resources, and personal inner transformation as a fusion of their emotions. The Achievement Emotions Questionnaire (AEQ) scale was applied including 9 items (α= 0.72). Bivariate analyses were conducted using an analysis of variance (ANOVA) and exploratory factor analysis. Additionally, focus groups were carried out at the end of the course, two weeks after, to allow time for reflection by the participants. The analysis was carried out as a conventional content analysis (inductive). The results of an online survey and focus groups with the students and the perceptions of the lecturers suggest that emotions contributed to fostering the learning of leadership skills and triggering deep inner personal development. The findings indicate that i) positive and negative valence contributes to the appraisal process, helping them to be self-reflective about their personal leadership qualities, ii) reinforcing their own shortcomings and improving self-skills such as confidence, building leadership fluidly. In addition, the emotional state of the trainers who accompanied the students during the sessions of the program was highly significant, becoming emotional triggers. Furthermore, trainers also become role models. Practical implications for the future are provided for the educational institutions and business managers to improve women leadership programs.

Keywords: emotions, leadership skills, self-confidence, women leader, female barriers

1. Introduction

According to the (World Economic Forum, 2018) women occupy just 34% of managerial positions, 24% of parliamentarians and 18% of ministers are women; this is the so-called "Glass Ceiling". A Catalyst 2020 census of Fortune 500 firms in the USA noticed that women are merely 5.8% of CEO positions in these companies (International Labour Organization, 2020).

The literature has tried to pinpoint the barriers to women's access to leadership positions and highlights issues such as discriminatory stereotypes, insufficient female critical mass in managerial positions, institutional and structural difficulties, work-life balance and the idea that authentic leadership is associated with masculine attributes (Hopkins and O'Neil, 2015; Machín-Rincón *et al.*, 2020). Human capital theories have explained these limits as a lack of self-confidence, stereotypes and lack of specific training (Baxter and Wright, 2000; Hopkins and O'Neil, 2015; Matheson and Lyle, 2017).

Student leadership is becoming an increasingly stated priority for higher education institutions (Skalicky *et al.*, 2020). Nevertheless, little attention has been paid to female leadership development. Early intervention supporting female leadership is extremely important to foster women leaders considering the enormous gap in Women representation in management positions. Women empowerment, through knowing one's self, building a mental picture, being well communicated among others, and taking effective action to improve one's personal leadership potential, must be underpinned on leadership educational programs (Hendricks *et al.*, 2010). However, enhancing and enriching deep learning among students is particularly difficult in terms of personal

change (Hendricks *et al.*, 2010). Research on the influence of emotions in the learning process has shown that they are relevant to promoting a student's personal change leading to an approach that lasts in time (Jacob *et al.*, 2019).

The relationship between emotions and education is a broad topic of research studied at the scientific level. Some of the most developed theories between emotions and education are those originating in appraisal theories, specifically those of appraisal of emotions. According to these theories, "emotions or emotional components are caused and differentiated by an appraisal of the stimulus such as mis/matching goals and expectations, as easy/difficult to control, and as caused by others, themselves or impersonal circumstances" (Moors, 2020).

Within this broad line of research arises the theory of Control Value Theory of Achievement Emotions (CVT) (Pekrun *et al.*, 2007). This complex theory responds to the emotions that the student experiences in learning and which, in turn, are subject to the academic institution and the classroom environment. It postulates two types of emotions in students: 1) while performing an academic activity, i.e., "achievement activity", e.g., boredom or enjoyment during practice; 2) the emotions experienced after reaching an academic result (goal), i.e., "achievement outcomes", e.g., relief or frustration due to the result of an exam. This set of emotions experienced by the student is called "achievement emotions".

Emotions related to activities or outcomes are mediated by students' internal processes (appraisal). One of them leads to the control of emotions, specifically "subjective control", which is the process of the control of emotions originated by students' expectations and "subjective value" integrated by; 1) the individual appreciation of their activities, i.e. "intrinsic values" and by the perception of usefulness or benefit of an activity to produce an outcome, i.e. "extrinsic values". At the same time, the student's emotions are related to the educational environment, e.g., classroom instruction, value induction (of the subject or task), goal induction, feedback, and autonomy support, among other factors. Consequently, the effects of the achievements (achievement emotions) reached by the students influence learning, specifically in the use of cognitive resources, student motivation, the use of learning strategies (trainers' methodologies, classroom interaction) and self-regulation of the students' emotions (control). Later works expand the CVT theory in higher education (Pekrun *et al.*, 2009) and create an instrument for the measurement of "achievement emotions" experienced by students in academic settings, which has been chosen in this research for the measurement of emotions (Pekrun *et al.*, 2011).

Although research describes emotions through different variables, dimensions and processes, all of them share the concept that emotions can be classified according to their "valence", that is, positive or negative (Ellsworth and Scherer, 2000; Jacobs and Gross, 2014; Pekrun *et al.*, 2009). The positive emotions (pleasant) usually include enjoyment, joy, hope, pride, relaxation, relief, among others, while the negative (unpleasant) include anger, anxiety, shame, hopelessness, boredom, frustration, disappointment, and anger. Research in education shows that the value of positive and negative emotions leading to academic achievement (or not) in students (Harley *et al.*, 2019; Pekrun *et al.*, 2009) are also part of the process of the regulation of emotions (Finch *et al.*, 2015).

Negative emotions, such as annoyance and frustration are related to poor student performance in higher education (Wass *et al.*, 2020). They are also detrimental to the realization of classes and activities in the classroom (Finch *et al.*, 2015). However, other works show that anxiety and tension associated with learning can stimulate states of reflection, but also of "learning inaction" (Gilmore and Anderson, 2016). In leadership training programs, stress is associated with increased critical thinking, which leads to a realization of their current skills and how to develop future ones (Waller *et al.*, 2017); in addition, emotions influence the perception and insight of their own training as a leader (Janson, 2008). Positive emotions are often related to good student performance. In some cases, joy, satisfaction and pleasure predict academic performance, academic engagement and self-efficacy (Oriol-Granado *et al.*, 2017). Motivation as an inner state (Titrek *et al.*, 2018) also positively influences student engagement with their studies and interest in learning (Jacobs and Gross, 2014). Even when there are positive reciprocal links between trainers' and students' enjoyment, i.e. a good classroom climate, which benefits the development of training activities (Frenzel *et al.*, 2018). In leadership training, positive emotions foster more autonomy and participation in the academic environment, as well as being positively associated with learning goals and to a lesser extent with work avoidance (Jacob *et al.*, 2019). Positive emotion is associated with higher levels of learning in leadership training (Villegas and Raffaelli, 2018).

Using a feminist Open Innovation (OI) approach, King Juan Carlos University has developed in collaboration with the Women's CEO Association, a Women's Leadership Program (WLP), three one-year courses carried out between 2017 and 2020 with the participation of 75 young female university students with high potential (Laguna-Sánchez *et al.*, 2021). A specific training to improve skills and tools in leadership for female university students and to enhance self-esteem and self-perceptions to empower females about their own assessment. The Program arises from the concern shared between both institutions, about the growing setback that was noticed among young women in matters of gender equality.

In 2019, the results of the program were analyzed based on the achievement of the objectives set in its design in order to propose the appropriate improvements. The findings ratified the effectiveness of the specific education in breaking down two barriers for women to attain a managerial position: lack of training and self-confidence (Segovia-Pérez *et al.*, 2019), but also we detected some paralyzing stress in the participants. This suggested we should pay attention to other indicators in the analysis and review the results. In this sense, it was considered necessary to evaluate the structure, methodology, the mentoring model and even their emotions. Then in 2020, following 50 student assessments some changes were made to the structure of the program to improve students' performance. We proposed an advancement in our research analyzing to what extent emotions contribute to improving the achievements of this program.

2. Methodology

A multi-source program estimation design was used to analyze the effect of emotions on the development of student skills during the WLP. Therefore, the leadership program evaluation included qualitative and quantitative techniques, facilitating the comparability of data by distinct methods allowing cross-validation if the results were similar in both. In addition, two informants were included: the students and the lecturers.

Quantitative Survey

At the end of each module, a quantitative online survey was used for the assessment of the WLP itself, the training received, and the emotions felt. The survey sample was 25 students.

Instrument: The performance assessment of the WLP itself and the training received were assessed using a scale developed in a previous study (Segovia-Pérez *et al.*, 2019) ($\alpha = 0.87$) and to evaluate the students' emotions an reviewed and adapted version of the Achievement Emotions Questionnaire (AEQ) (Pekrun *et al.*, 2011) were used ($\alpha = 0.72$).

Analysis

The quantitative data were analyzed using SPSS21 by univariate analyses, bivariate analyses with analysis of variance (ANOVA) and an exploratory factor analysis to shed light on students' emotional conceptualization.

Qualitative Study

For the assessment of how emotions influence the development of abilities and self-confidence, a qualitative methodology was conducted at the end of the program. Two focus groups (16 students participated) were held with the students to obtain a deep comprehension of their emotions, how they perceived themselves, individual changes in their behavior and their self-consciousness of personal change. Furthermore, as part of the cross-validation by the multi-source program assessment, we conducted a series of semi-structured interviews with seven lectures of the program.

Analysis

The analysis was carried out as a conventional content analysis (inductive analysis), to capture relevant information (Hsieh and Shannon, 2005).

3. Results

3.1 Assessment of the WLP program and the training received

Table 1 shows that the general evaluation of the course was excellent (M=8.81; ST=1.62). Analyzing the results of the evaluation of the students per module, in general, all of them present very high evaluations and none of them below 7 (the measurement scale is from 1 to 10). However, the module that stands out from the rest is the Public Speaking module, followed by Social Media and Networking and Negotiating Efficiently. It is noteworthy that in all three cases, the ratings present minimum values of 6, 7 and 6 respectively, which indicates their position towards extremely high and positive values.

Table 1: Descriptive results of the subject evaluation (Scale from 1=Very Bad; 10=Very Good) N=180

	N	*Media*	*Dev. Deviation*	*Minimum*	*Maximum*
Introduction/Business Context	27	7.93	2.772	1	10
Personal Branding	25	8.88	1.301	5	10
Social Media and Networking	**24**	**9.08**	**1.018**	**7**	**10**
Communicating efficiently	23	8.96	1.186	6	10
Public Speaking	**22**	**9.32**	**1.129**	**6**	**10**
Negotiating Efficiently	**20**	**9.05**	**1.276**	**6**	**10**
Covid-19					
Leadership styles and techniques (online)	22	8.55	1.654	5	10
Design for Change (online)	17	8.88	1.409	6	10
Total	180	8.81	1.628	1	10

3.2 Assessment of student's emotions

Positive emotions predominated during and at the end of the program, as Table 2 reports. High scores have been given to motivation (Motivation: 91% of the students), greater hope in their own abilities (Hope b): 89% of the students) and the increase in self-confidence (Hope a): 85%). Students highlighted on the focus groups that they were motivated throughout the program. They expressed that "This Program goes beyond academia" (Focus Group 2), as they felt that it had changed their lives and own perception, facilitating a way of learning to evaluate their professional and personal strengths and weaknesses. As they got to know themselves, they were increasing their self-confidence significatively and self-hope about their leadership strengths. This idea was reinforced by three trainers when they explained that the students "gain confidence, security in decision making, strengthening their personality" referring to the program as a whole.

Table 2: Descriptive results of the positive emotions felt by the students. Scale de 1 a 10 (1=No emotions; 10=A lot of emotions) N=180

Positive Emotions	*Media*	*ST*	*Yes*	*No*
Motivation	**8.59**	2.217	91%	3% (n=6)
Hope b)	**8.37**	1.899	89%	3% (n=5)
Hope a)	**8.28**	1.928	85%	8% (n=3)
Enjoyment a)	8.19	2.012	86%	7% (n=11)
Pride	8.18	2.111	87%	6% (n=11)
Enjoyment b)	8	2.207	83%	8% (n=15)
Relief a),	7.94	2.164	83%	7% (n=14)
No, they have not felt it (Values below than 4); YES, they have felt it (values above 6).				
Motivation, I am more motivated than when I started the module; Pride, I am proud of how well I mastered the module; Hope a), I feel more self-confident on finishing the module; Hope b), I have great hope that my abilities will be sufficient for the course; Enjoyment a), I felt excited during the module; Relief a), I feel very relieved during the module; Enjoyment b), for me the module is a challenge that I enjoyed.				

As for the negative emotions (see Table 3), except in the case of "Relieved b): relieved to finish the module", which they felt 37% of the time, the rest of the negative emotions were practically absent throughout their learning and at the end of it. All the averages are close to the extreme value 1, which corresponds to NOT having felt that emotion. In fact, students reported that they felt tension but "I became calmer when I saw that I was capable".

Table 3: Descriptive results of the negative emotions felt by the students. Scale de 1 a 10 (1=No emotions; 10=A lot of emotions) N=180

Negative Emotions	Mean	ST	No	Yes
Relief b)	4.34	3.338	60%	37% (n=67)
Anxiety	2.05	1.829	91%	7% (n=13)
Shame	1.86	1.779	93%	6% (n=11)
Disappointment	1.46	1.207	96%	2% (n=4)
Hopelessness	1.39	1.305	98%	2% (n=4)
Anger	1.32	0.837	99%	1% (n=2)
No, they have not felt it (Values below than 4); YES, they have felt it (values above 6).				
Disappointment, I felt disappointed during the module; Hopelessness, I have lost all hope that I have the skills to finish the course well; Anger, I am fairly annoyed during the module; Anxiety, I get tense and nervous during the module; Shame, I felt ashamed during the module; Relief b), I felt very relieved when I finished the module.				

In order to determine the students' conceptualization of their emotions, an exploratory factorial analysis of 13 questions about their emotions during the course was carried out. Contrary to what one might think, emotions were not grouped into two large blocks, bringing together positivity or negativity. The results (see Table 4) revealed a three-factor solution, which explained 74% of the variance after 4 iterations (KMO=.839, Bartlett's sphericity test =2033,006 (gl= 78; σ= 0.0000)). Questions loading less than 0.50 on the factors were discarded. Sum-scores based on factors 1, and 2, obtained Cronbach's alpha coefficients ranging from 0.97 to 0.68, respectively. However, sum-scores based on factor 3 obtained low Cronbach's alpha coefficients, ranging from 0.44.

Table 4: Results of the exploratory factor analysis of emotions (n=180)

	Factor Loadings	*Eigenvalue*	*Variance explained %*	*Cumulative %*
Factor 1. Positive Emotions (Cronbach's α = 0.97)		5.89	45.31	45.31
Motivation	.96			
Pride	.94			
Hope a)	.93			
Hope b)	.93			
Enjoyment a)	.90			
Relief a)	.88			
Enjoyment b)	.86			
Factor 2. Disappointment-hopelessness (Cronbach's α = .68)		2.43	14.56	59.87
Disappointment	.88			
Hopelessness	.75			
Anger	.68			
Factor 3. Negative Emotions (Cronbach's α = .44)		1.30	14.25	74.13
Anxiety	.76			
Shame	.73			
Relief b)	.54			
Method of extraction: Principal component analysis. Method of rotation: Varimax with Kaiser. a. Converging at 4 rotations				

The first factor, accounting for 45% of the total variance, was named Positive Emotions. Themes loading on this factor were related to all the positive, inspiring, driving, self-confidence emotions that the program generated. It is also the most relevant factor since it groups the highest percentage of the accumulated variance. The second factor, named Disappointment-hopelessness, accounted for 14.6 % of the total variance and consisted of questions related to a negative balance in terms of disappointment, displeasure or lack of hope in their own abilities. Therefore, these emotions imply self-reflection on their current situation and how the course made the students reflect on what changes they needed to make personally, what their strengths and weaknesses were, both at a formative level of acquisition of skills and knowledge, as well as personal. This factor, despite bringing together negative emotions, invited action and change, through self-reflection. The third factor, named Negative Emotions, accounted for 14.25% of the total variance and included the most blocking negative emotions that

did not invite action, but rather seemed to agglutinate a more paralyzing emotional state, such as tension, anxiety, shame and relief in finishing the module-course.

One of the main concerns was to know if the emotions felt contributed to the evaluation of the program, in terms of skills, capacities and the development of personal skills. For this reason, an ANOVA was performed (see Table 5). It was found that there was a statistically significant relationship between the type of positive emotion felt and the best or worst evaluation with respect to each of the modules. Previously, we saw that the Public Speaking module was the best rated of all the modules taught, along with Negotiating Efficiently and Communicating efficiently. Moreover, it was precisely these three modules that produced the greatest concentration of positive emotions, highlighting without a doubt the first one. The Public Speaking module was a turning point that generated an immense motivation, and more belief in their own abilities, which despite being a challenge, they enjoyed, and which gave them much more confidence in themselves. These emotions were similar with Communicating efficiently, as the two modules were intertwined, although this was reflected much more markedly in Public Speaking. The Negotiating Efficiently module, which was taught after the previous one, reinforced belief in their abilities, which they enjoyed, although it was a challenging module.

Table 5: Results of ANOVA analysis of significance. Positive emotions by subject

Emotion	Module	N	Average	ST	Minimum	Maximum	F
Enjoyment a)	**Introduction/Business Context**	27	**8.56**	2.636	1	10	27.375***
	Negotiating Efficiently	20	**8.55**	1.82	4	10	2.559
	Public Speaking	22	**8.5**	2.11	4	10	8.583**
Hope b)	**Public Speaking**	22	**8.73**	1.638	5	10	18.182***
	Negotiating Efficiently	20	**8.6**	1.536	5	10	4.593**
Enjoyment b)	**Public Speaking**	22	**8.73**	1.609	5	10	17.386***
	Negotiating Efficiently	20	**8.65**	1.755	5	10	7.965***
Relief b)	**Communicating efficiently**	23	**8.35**	2.102	3	10	3.868**
	Personal Branding	25	**8.24**	1.832	4	10	9.169***
Pride	**Public Speaking**	22	**8.55**	1.993	3	10	2.900
	Communicating efficiently	23	**8.43**	1.903	4	10	4.858**
Motivation	**Public Speaking**	22	**9.05**	1.463	6	10	28.369***
	Communicating efficiently	23	**8.91**	1.411	5	10	10.545***
Hope a)	Public Speaking	22	**8.64**	2.321	3	10	5.992**
	Communicating efficiently	23	**8.61**	2.083	4	10	6.174**
*** p<0.000 ** p<0.001							

4. Conclusion and practical implications

This research contributes to understanding how emotions modulate the learning process in educational leadership programs, such as the WLP, by building on previous research. The results suggest that activation and deactivation of student emotions (Pekrun *et al.*, 2007) occurs in response to the use of learning strategies in the classroom. Specifically, these strategies are a combination of practical sessions, considered more relevant than theoretical sessions, the design of the program' structure, a motivated teaching staff aligned with the objectives of the program, and the configuration of the group of students, with diverse backgrounds but with high leadership potential. A feminist OI approach was applied in all this WLP.

The results expand on previous research due to many leadership course investigations that evaluated pre/post activity courses primarily through satisfaction (Reyes *et al.*, 2019). In our case, measurement was not limited to satisfaction, but emotions were evaluated during and after the sessions. This design facilitated the identification of the students' internal processes (appraisal). Student learning and appraisal was a non-linear but cumulative process with individual changes that followed a common trend among all students. A turning point occurred during the practical communication and negotiation session, where they felt more excited and motivated, but also more aware of themselves.

This research suggests that positive emotions helped to achieve goals of: 1) improving staff resources as well as confidence, 2) influencing the process of reflection, their skills and their future, and 3) improving networking.

The emotional state of the trainers accompanied the students during the sessions of the program was highly significant. Their positive emotions also engaged the students, becoming emotional triggers, as seen in previous studies (Frenzel *et al.*, 2018; Kordts-Freudinger, 2017). Furthermore, the fact that the trainers not only contributed their knowledge, but also become role models, are issues to be considered in the design of these programs.

As a practical implication, the results show that the demand for soft skills training and preparation appeared repeatedly in the Student Focus Group. Depending on the different student profiles, it can be seen that this demand is particularly urgent. These types of programs especially dedicated to women are essential to generate self-confidence, self-awareness, networking and support networks for the future, overcoming the barrier to reach management positions (Terjesen and Singh, 2008). WLP will be the key to women's success in breaking the glass ceiling. University might incorporate emotions in the design and evaluation of the WLP in order to increase their success and effectiveness.

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Is it a WoMan's World? Gender Stereotypes and Social Role Inequalities in Advertisements

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Abstract: Gender representation is a very complex system, which, according to a wide body of research, is never static, but rather ever-changing, due to the mediated visual artefacts channelled through advertisements. Research has shown that marketers most often prefer to show females as desirable creatures in decorative roles, while men are typically featured as authoritarian and independent (Reichert & Carpenter, 2004). A growing interest in 'non-stereotypical gender role representation' placed gender under a different light (Chu et al., 2016). The intention of the present paper is to contribute to the enrichment of the identified gap by identifying the expected gender inequalities, the illusional visual portrayals, and the possible negative effects that can come into existence in society. Therefore, the present research aims to explore the changing frequency of male and female presence and the gender role representation with a special focus on the various trait descriptors, physical characteristics, and clothing styles, all of which either strengthen or break stereotypes. Focusing on the interval between 2015 and 2019, the aim is to contrast two main pillars: the first pillar represents six randomly selected commercial advertisements of different international product brands (Audi car, Ariel detergent, Johnson and Johnson's Baby products, Activia yoghurt, Nike sports accessories and Advil painkiller medicine), while the second pillar is based on the five latest Epica Award-winning Grand Prix Films, juried by two hundred international journalists. The research hypothesis suggests that mass-targeted commercial advertisements are more likely to be stereotype-consistent, while jury-targeted commercials, which compete for a professional creative prize, are rather stereotype-inconsistent. The proper operationalization of the collected data required a descriptive method, which offered enough room for the characterization of actions, stylistic features and body language featured in the commercials. Therefore, the qualitative research is built on Charteris-Black's (2019) visual rhetorical content analysis. Results indicate that while the award-winning commercials are more likely to be stereotype-inconsistent, those commercials that are presented for the mass are rather stereotype-consistent.

Keywords: stereotype; gender role; advertising; visual representation; rhetoric

1. Introduction

Although media products can be consumed in various forms due to the vast number of platforms, there is one main unifying trait for all forms, and that is visuality. "We learn who we are as private individuals and public citizens by seeing ourselves in reflected images, and we learn who we can become by transporting ourselves into images" (Helmers & Hill, 2004, p.1). As suggested by Helmers and Hill (2004), visual representations offered to media consumers embrace not only the thin layer of raising attention by making the products of media colourful, attractive, and easily remembered for the viewer, but the power of a visual opens the door for a multidimensional thinking making the viewer engage, process, and become crucial part of the saga of media.

As we become integrated citizens of our society, all the individuals and the surrounding environment is shaping with us. One of these enormously influential factors is the media, which can be the mirror of a society. Although numerous fields of media content have been explored since the 1970s (Kim & Lowry, 2005), scholars have paid a special attention to the understanding of social roles as well as gender stereotype processing in media consumption. "We live in a society that is not only saturated with media but also with stereotypes that are cultivated through the media that we consume" (Goodall, 2012, p. 160). Our society's media exposure is an inherent pressure on societal norms, self-image and behavior pattern, and such biased consequences can be found in social categorizations, associations and most importantly, in gender stereotypes. Wood (2011) noted that "(…) the media have provided the audience with "models of what it means to be male or female, or in a relationship" as well as images "of what men and women are and should be" (pp. 257-262). Therefore, the purpose of the present paper is to observe gender stereotypes and social role inequalities in commercial advertisements.

2. Theoretical background

2.1 Persuasive communication and advertising rhetoric

Historically speaking, rhetoric was born under Greek democracy in the fifth century BC as a systematic practice of persuasive communication strategy and was defined as the art of effective speaking as well as of persuasion through words (Ilie, 2018). Aristotle's *Rhetoric* (350 BC) is considered to hold the biggest influence on the creation of persuasive communication. The Aristotelian view suggests that in case of simple communication we can be straightforward without any persuasive manner; however, when one is faced with a public audience, it is impossible not to imply rhetorical tools to teach them. Aczél mentioned, that audience members are prone to misunderstand rhetoric, thinking that "(...) rhetoric can also be about „the manipulative use of language to coerce people to believe and do what they would otherwise not believe or do" (2019, p. 41). Yet, with the era of the pictorial turn, a new rhetoric, or more specifically, a deep rhetoric has been placed in the spotlight. Hill reported, that "representational images tend to prompt emotional reactions" (2004, p. 26), thus the appeal to emotion is one of the most significant and useful tools for producers of visual artefacts. The human mind represents reality by translating objects into pictures through a process of representation, known as a *pictorial convention* (Scott, 1994). It is clear, that communication as a persuasive art can be the catalyst of rhetorical maneuverers, yet questions might arise, when persuasion is approached from a marketing perspective.

"The ads sell a great deal more than products. (…) They tell us who we are and who we should be (…)" (Kilbourne, 1993, p. 161). Generally, advertising can be viewed as an industry, which plays a crucial role in the marketing of consumer goods and aims to manufacture cultural products in the forms of advertisements and commercials (Schudson, 1993). Dahlen and Rosengren (2016) believe that the meaning of advertising conveys a communicative intent, meaning that the brand itself is the starting point of communication in an advertisement. Satisfying everybody's needs and successfully attracting the members of a global audience can be a grand challenge for advertisers.

2.2 Stereotype processing and gender representation

We organize our knowledge by building on previously experienced events, which might seem to be an unruly chaos in our minds, yet it is perfectly trimmed into a vast number of mental representations. Such representation is the creation of stereotypes, which comes into existence first as a linguistic concept and only then it is possible to be applied to imagery (Wigboldus & Douglas, 2007).

Originally, the term stereotype was first articulated by Walter Lippmann (1992) and refers to the "beliefs about a social category, especially those that differentiate gender" (Ashmore & Del Boca, 1981). A stereotype, conceptualized as a specific cognitive structure, embodies information relevant to the categorization of a specific group of people (Blumentritt & Heredia, 2005). From a linguistic point of view, stereotype processing involves several idealized cognitive models, such as metonymy and metaphor (Lakoff & Johnson, 1980), scripts (Schank & Abelson, 1977), schemas (Rumelhart, 1975), and prototypes (Rosch, 1978). Stereotype processing has deep roots in the mental conceptualization of the world and when we are exposed to recurring advertising images of certain genders, those visuals become typical and at the same time, influential to the perception.

Advertising research often uses the terms gender stereotypes and gender roles to describe the phenomenon of differentiating men and women by certain attributes. Zhang, Srisupandit and Cartwright (2009) reported that applying gender role stereotyping is a welcomed strategy in marketing by portraying men in a specific employment status and women in a decorative sex role. Generally, stereotypes become problematic when their usage makes the opportunities impossible for another social group or when they lead to negative expectations (Ashmore & Del Boca, 1981). Such attributes may include physical characteristics, trait descriptors, occupational statuses, or role behaviors (Deaux & Lewis, 1984).

2.3 Previous research on gender portrayal in advertisements

Since an ad can reach millions of individuals daily, "it has become targets for heavy scrutiny by researchers interested in the effects of the women's movement on the media" (Kang, 1997, p.981). A wide array of study has shown that a female image in magazine advertisements is mainly characterised as weak, subordinate, and irrational (Kang, 1997). Courtney and Lockeretz (1979) analysed female images in magazine ads and concluded that women are featured as sex objects and most frequently shown in ads for clothing, beauty products, and

cleaning products. In addition, numerous analyses have reported that women are more likely to be featured in the context of home, family, and romantic interests, moreover, women tend to be presented as young, thin, and unmarried (Kilbourne, 1993; Knoll *et al*., 2011). Schnurr (2017) used an experimental design and reported that women are often hedonically positioned in ads representing the enjoyable, experiential dimensions of the product, whereas males are rather functionally positioned in visuals, representing the problem-solving and instrumental dimensions of the product.

Advertising exists in an altering societal and cultural system, which holds the idea that gender role stereotyping does not live in a vacuum, in fact, they are continuously shaped and modified by external factors of social change (Kang, 1997; Lindner, 2004). For example, similarly to this paper's interval, Thomas and Fowler (2015) conducted a content analysis on television advertisements between 2003 and 2008, and concluded that there have been changes in the portrayal of men and women. While most research investigated a content analytic study, other research focused on how consumers feel about novel portrayals of femininity and masculinity. Most importantly, Chu, Lee and Kim (2016) analysed 'non-stereotypical gender role representation' (NSGR) and found that the recipient sees this phenomenon in a positive light. „NSGR is used to achieve marketing objectives like increasing attention, gaining interest and increasing sales" (Chu, Lee & Kim, 2016, p. 768). Therefore, unexpected as well as unusual gender portrayals are presumed to evoke a positive attitude and perception in individuals. While on the contrary, an individual's perception of a visual artefact is not one-dimensional at all, in fact, depending on the consumed product and on the type of audience this may vary due to altering schemas. Since an individual does not process and store all the perceived information, an abstract knowledge structure is required, which helps to guide attention to what is new or unexpected. Schemas are dynamic structures, which are constantly updated by new expectations (abstractions or stereotypes) (Mendelson, 2001, p. 121). Gender schema theorists Bem, Martin and Halverson (1985) have found that although information distortion can likely occur, the model affects which kind of information is going to be noticed, encoded, and remembered - consistent information processes and inconsistent being overlooked. It also helps the individuals to match the perceived behaviour with the behaviour they believe is appropriate for their own gender (Martin & Daniella, 2001).

2.4 Research questions and hypothesis development

As mentioned in the previous section, research on gender roles has been predominantly focusing on three main areas – the occurrence of gender roles, the social effects of gender roles on the society and advertising effectiveness of gender roles. Yet little is known about the stereotypical dimensions of gender in motion picture, more specifically in commercial advertisements (Eisend, 2019).

The purpose of this research paper is to discuss the level of gender stereotypes and the representation of social roles as well as traits in commercial advertisements from the year of 2015 until 2019 (until the outburst of COVID-19) - all the perceived visuals observed and analysed from a visual rhetorical point of view. The paper aims to thoroughly explore the level of presence (or absence) of male and female gender role representations, specifically focusing on the various trait descriptors, physical characteristics, occupational statuses, and clothing style applied in the chosen advertisements. The research examines two different kinds of commercial advertisements: on the one hand, six global brands that target the mass audience by featuring a product with the use of a particular gender, while on the other hand, five Epica-Award winning commercials, which target a group of juries, and have been awarded as being an outstandingly creative and innovative commercial advertisement. The present paper aims to answer three main research questions:

> *RQ1: Is there a significant difference concerning gender representation in each production group?*
>
> *RQ2: Does the level of applying gender stereotypes change (increase/decrease) throughout time?*
>
> *RQ3: Is the level of stereotype representation different if the advertisement competes for a professional prize?*

Considering the research questions in the given order, they ask about the product-based differentiating aspects, the time-based variable measurements, and the target-based difference between viewer as the mass, and viewer as the jury.

In Schudson's prominent and influential book called *Advertising, The Uneasy Persuasion: It's dubious impact on American Society* (1993), he claims that advertising promotes "consumption as a way of life', and that it

exclusively features typical images, which are relevant in the world of mass marketing. Therefore, the following hypothesis is predicted:

> *H: A mass-targeted commercial advertisement is more likely to be stereotype-consistent, while a jury-targeted commercial, which competes for a professional creative prize, is rather stereotype-inconsistent.*

3. Method

3.1 Sample of advertisements

The sampling phase is an essential part of the qualitative research, thus special attention has been paid to adequately select the brands as well as the commercials. Important to note that each selected brand represents a gender-neutral product category, meaning that both men and women consume and use it, and do not have any limitations or restrictions to the product. This was important to clearly distinguish the gender-neutral products from the gendered (feminine or masculine) products. For this reason, six international brands have been selected from the areas of food, vehicle, clothing, medicine, skin care and cleaning product. The six international brands are the following*: Audi car, Ariel detergent, Nike sport accessories, Activia yoghurt, Advil painkiller and Johnson* and *Johnson's Baby Products*. While on the other hand, since only one Grand Prix Film could win an Epica Award in a particular year, there was no possibility to randomly select, therefore, the five winning commercials have been analysed. The five winning Grand prix Films of the Epica Awards are the following: *The Watts of Tokyio Inc. "High School Girl?"* (makeup brand), *Kenzo Parfums "Kenzo World*" (perfume brand)*, BBDO New York "Evan*" (Sandy Hook promise campaign), *Shiseido "The Party Bus"* (makeup brand), *Daimler AG "Mercedes-Benz Bertha-Benz"* (car brand).

To ensure the impartiality as well as the quota system of the creative prize, an e-mail has been sent to the operations director of the Epica Awards in which the person in charge assured us that there is no gender quota that would manipulate or alter the incoming commercial advertisements.

One commercial has been randomly selected per year, in the interval of 2015 and 2019, and the only factor that has been considered is the high number of views of a commercial. No commercial has been excluded, moreover, the entire plot and each character presented has been mentioned and examined in the analysis.

3.2 Analysing procedure

Based on both cognitive and emotional aspects, important notions of rhetorical sensitivity include attention, self-observation, norms, and differences. (Aczél, 2017). The present paper intends to apply a methodology, which emphasizes a strong rhetorical viewpoint - this method is called rhetorical content analysis, or with other words, rhetorical criticism.

Rhetorical criticism has been first applied to the analysis of political speeches introduced by Jonathan Charteris-Black in his book *Analyzing Political Speeches: Rhetoric, Discourse and Metaphor* (2014, second edition). Such rhetorical critical discourse analysis assumes that the researcher can only approach a social context if he maps the correspondences between purposes, intentions, and possible explanations of those choices. Doing such a mapping, involves the identification of the speaker's choices, purposes, and intentions - all connected with the context in which the speech has been made. Visual rhetorical criticism is built on the following three main pillars:

- Analysis of speech circumstances - involves the observation of situation circumstances, or the speech setting (speaker, location, date, occasion), cognitive circumstances, such as the speaker's and audience's beliefs, and nevertheless process circumstances, which refers to the norms and interaction between the speaker and audience.
- Identification and analysis of features - built around various visual elements, stereotype, stylistic features, bodily appearance (e.g., hairstyle, eyes), bodily performance (posture, hand gesture) voice tone, and dress (formal, informal).
- Interpretation and explanation - defines which elements of the event are the most prominent, whether the visual representation is abstract or concrete, and whether they are in an order and have a conclusion.

Concerning the analyzing procedure, each commercial has been critically analyzed, commented, and described, highlighting the gender differences, appearance, occupational status, tone of voice, attitude, clothing style and

color, and the number of men and women appeared in the commercial. The criticism has been conducted twice. First, the six gender-neutral brands have been described, secondly, the Epica-Awards Grand Prix Films have been reflected on. The two visual rhetorical criticisms have been executed in a total of twenty-two pages, touching upon all factors of the three pillars listed above.

4. Results

The considerably connotative and all-embracing rhetorical criticist analysis carried out on the randomly selected commercial advertisements of six different product brands, and on the five latest Grand Prix Films of Epica Awards in the interval of 2015-2019, denoted several significant as well as unexpected findings with a special focus on gender role representation and stereotyping on screen.

The first research question of this present paper sounds as follows: Is there a significant difference concerning gender representation in each production group? The answer is yes. In case of the Ariel detergent brand, twenty-four women and only nine men have been associated with the selling of detergent, while in the case of Activia yoghurt brand fifty-eight women and only five men have been stereotyped with digestive problems. In this latter brand, three out of six commercials even completely lacked male presence. Thus, the brands of Ariel and Activia are both being strongly stereotyped with women. On the other hand, in case of the Audi car brand, twenty men and only seven women can be observed in the commercials, and five times out of the six cases we can see exclusively a male driver and only once a female (who is a child, and she is driving only as a game). Furthermore, in the commercials of Advil painkiller medicine, twenty-two times we see a man having headache, while only eight times do women feel pain. Therefore, Audi and Advil both prioritize male presence, hence create a considerably strong male stereotyping. Finally, the Nike sports accessories brand and the Johnson and Johnson's Baby products brand brought surprising and rather unexpected results. The Nike commercials included seventy-eight females and only thirty-six males, meaning that female presence is more than double, which is mainly due to the launch of gender equality campaigns with the aim of showing women as independent, strong, and skilful individuals. On the other hand, the other stereotype-inconsistent representation can be observed in the Johnson and Johnson's Baby products, in which forty-four males and forty-three females have been featured, showing life-like scenarios with the presence of both parents and as such, male role representation as father, nurturer and caregiver did a big step towards male portrayal on screen.

The second research question is the following: Does the level of gender stereotypes change (increase/decrease) throughout time? The content analysis suggested that although the occurrence of gender stereotyping changes in terms of brand, the average frequency of gender stereotyping is the very same in all five years: in each year, four out of six commercials have used stereotype-consistent representation, which means that in terms of an average use of stereotypes there is no change in time. While in case of the Epica Awards short films, four out of five Grand Prix Films have been identified to break stereotypes, hence, being stereotype inconsistent. Overall, there are indeed minor changes and difference in the level of stereotyping, no drastic alteration could be observed. In case of Epica Awards, apart from the Sandy Hook Promise campaign, each product commercial is built on non-stereotypical representation, which results the lack of alteration throughout time. The very same perception can be claimed for the six brands, but on the contrary, with the use of stereotypes.

The third research question of this paper is as follows: Is the level of stereotype representation different if the advertisement competes for a professional prize? The answer is a very clean-cut, unambiguous yes. Considering the percentage of stereotype frequency, 66.6% of the six product advertisements are stereotype-consistent throughout the five years, while 80% of the five Grand Prix Films of Epica Awards are against stereotypes, hence they are stereotype-inconsistent throughout the same five years interval. With other words, the jury of the Epica Awards is strict on evaluating the ads to be explicitly creativity-driven and indeed, the rhetorical content analysis concludes that creative commercial advertisements are honoured with a special award if they tend to be novel, unusual, and consistency-breaking, while everyday TV commercials prefer to create a solid ground for easy identification with 'non-risky' images and typical gender portrayal for the consumers of mass media. Overall, the hypothesis has been proven to be true, meaning that a mass-targeted commercial advertisement is more likely to be stereotype-consistent, while a jury-targeted commercial, which competes for a professional creative prize, is rather stereotype-inconsistent.

5. Discussion

The purpose of this paper was to observe the level of gender stereotypes and social role inequalities in commercial advertisements between 2015 and 2019 (until the outburst of the COVID-19 pandemic) - all the perceived visuals analysed from a visual rhetorical perspective. We predicted that mass-targeted commercial advertisements of the selected six gender neutral brands are more likely to be stereotype-consistent, while jury-targeted commercials competing for a professional prize are rather stereotype-inconsistent. Based on the results, the outlined hypothesis has proven to be true, since 66.6% of the six brands' commercials are stereotypical and 80% of the Epica Awards Grand Prix Films are non-stereotypical.

Even though the hypothesis offered a solid underpinning to the idea that a clear division exists in the objective of a commercial, there are some other considerably important observations that shall be taken into consideration. Chu, Lee and Kim's (2016) examination of perception and theory of 'non-stereotypical gender role representation' (NSGR), plays a key in the conclusion of our investigation, since the understanding of the results can be viewed from a reversed perspective as well. More specifically, if the jury of the Epica Awards has awarded the commercials that have been mainly breaking the stereotypes, it leads us to the idea that those non-stereotypical motion pictures evoked positive feelings and reactions from the members of the jury. Since we positively react to a visual argumentation, such attitude can be in line with awarding it as well – this comprehension might provide a possible explanation to the operation of the Epica Awards-winning competition, from implicit consumer psychological perspective. Therefore, it can be presumed that the more a commercial contains non-stereotypical gender role representations, the more likely it will generate positive reactions and hence, will be awarded. Remaining on the horizon of perception, the NSGR is not the only theory concerning visual perception, in fact, it is challenged by other notions as well. While the NSGR stands on the side of novelty and stereotype-inconsistency, the gender schema theory (Bem, Martin & Halverson, 1985) marks quite the opposite. Contrasting the idea of positively reacting to non-stereotypical visuals, the gender schema denotes that an individual is more likely to remember, recall and identify with those kind of information that match his or her perceived behaviour. Therefore, the gender schema theory may offer a reasonable explanation for the marketing psychology of the six gender-neutral brands, which are mainly broadcasted in television and is viewed by a wide audience. The easier it is to recall and remember a piece of information, the more those kind of images will become conventional for advertisers.

In addition, an essentially novel observation concerns the role of women and men and their transformation in portrayal. One of the most striking result emerged from brand Nike, which showed an unexpectedly high number of female characters, while brand Johnson and Johnson's Baby marked a similarly remarkable result by containing the same number of males and females in the commercials. Uncertainty may arise, whether the distribution of gender is not something coincidental, but rather a marketing maneuverer. Since the brand Nike is a world-wide known sports brand, which highlights strength, determination, and power – all the attributes that are descriptive traits of masculinity – a possible strategy would be to represent women with masculine attributes, which would not only promote female empowerment, but would also increase profit for targeting both men and women. Thus, Nike does not give up on encapsulating its conventional masculine values, but instead, assigns them to women. Whereas brand Johnson and Johnson's Baby increases masculine presence and features an almost equal amount of male and female characters in its commercials. Baby products do in fact target mothers, who give birth to the new-born, yet featuring a high number of father may refer to the idea that while mothers stay at home and nurture the baby, fathers may be responsible for shopping and buying the essential products for the newcomer. Thus, marketing purposes seem to be an organizing principle in both cases of Nike and Johnson and Johnson's Baby.

6. Conclusion

As a matter of fact, gender stereotypes and social role inequalities do in fact show a variety of portrayal types and challenge the viewer to encode the transmitted information. As previous sections outlined, stereotypes do not live in a vacuum, furthermore, they are an ever-changing phenomenon, which depends on societal values, marketing objectives, changing socio-cultural values and perceptions. The present study challenged the notion, whether masculine and feminine social roles tend to show a changing culture in gender portrayal. Yet, research shows that mass-targeted commercial advertisements are more likely to be stereotype-consistent and stay in line with the gender schema theory, while jury-targeted commercial advertisements are more likely to break with conventional gender portrayal and are rather stereotype-inconsistent. Overall, a moderately changing trend could be observed in the investigated research, however, femininity continues to be encapsulated in a

rather conventional, traditional representation, whether it is a detergent, a medicine, or a sports brand, whereas masculinity remains on the line of demonstrating authority, power, and masculine strength.

Although the present paper intended to contribute to the research gap existing in the literature of advertising rhetoric, brand management, and gender role portrayal, the academic literature is still widely open for future research questions and suggestions. Further research directions may be investigated in the digital sphere of gender stereotypes, the portrayal of gender in film theory and on social media platform, or the identification of visual rhetorical devices of outstanding megabrands.

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Saving Lives With Gender Studies? Putting Technofeminism Into Practice

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Abstract: Although cardiovascular disease (CVD) is a major cause of morbidity and death for all humans, measurable differences can be observed as a function of both sex (e.g. in risk factors and clinical presentation, based on biological factors such as hormone levels or tissue structure) and gender (e.g. diagnosis, treatment, and clinical outcomes based on sociocultural factors such as roles, norms, behaviour; Kentner & Grace, 2017). Cardiovascular rehabilitation (CR) is known to significantly reduce CVD mortality and re-hospitalization rates, and increases quality of life for all genders. Nevertheless, women are less often referred to CR by physicians, which could be explained by multiple reasons, one of them unconscious sex and gender biases. Additionally, women face family responsibilities and lack of transportation options as greater hindering factors than men (ibid.). Those facts made CR a logical target for a medicine technology project, which developed (between 2018 and 2021) a multifunctional data patch for monitoring of vital signs and movements. These patches with printed ECG sensors can be worn on the skin for several weeks and thus can be used to support cardiovascular tele-rehabilitation. However, the use case of cardiovascular disease and the motivation to close the gender gap in its rehabilitation found its way into the technology design process only because the project received funding for implementing a gender perspective in an interdisciplinary team. The Austrian FEMtech research funding programme is an example of implementing a gender policy into practice by integrating gender as a cross-cutting issue in science and research as well as promoting gender equality in the research team itself. This paper analyses the application of a technofeminist approach (Wajcman 2004) in a project and outlines its implications. This started by raising awareness on the concept of "configuring the user as 'everybody' and the use of the 'I-methodology'" (Oudshoorn et al. 2004, p.30). It consequently followed a participatory technology design path, involving stakeholders from the very beginning. Thus, instead of only sticking to mandatory tasks of reflecting gender in meetings, the project team expanded their methodology and interdisciplinary setup into a transdisciplinary undertaking drawing on the RRI (responsible research and innovation) values of reflexivity, responsiveness, anticipation and deliberation (Stilgoe et al. 2013). In the long run, a gender-sensitive – technofeminist – research and design process should result in better and more comprehensive routines and products, thus, regarding medical and safety issues, potentially saving lives.

Keywords: technofeminism, feminist STS, medicine technology, participatory technology, cardio rehabilitation

1. Background

Although people of all genders can experience cardiovascular disease, such as heart attacks and strokes, there are measurable differences in both risk factors and consequences depending on biological and social sex. Kentner and Grace (2017) identify gendered risk factors including smoking, diabetes, and psychosocial influences such as stress, social isolation, and depression that are particularly relevant to women in the context of cardiovascular disease. However, a mixture of lack of awareness and unconscious perceptual errors ("unconscious bias") delay the diagnosis or treatment of women (e.g., ECG examinations). For example, in the context of heart attacks, women sometimes experience unique symptoms (such as anxiety, back pain, digestive disturbances, flu-like symptoms, fatigue) that are not recognized appropriately and therefore lead to late diagnoses and slower responses. On top of this, women themselves are more likely to seek help for others than for themselves (ibid.).

Cardiovascular rehabilitation (cardio-rehab for short) has been shown to be effective in significantly reducing mortality after cardiovascular disease and improving quality of life for all genders. Despite this, physicians are less likely to refer women for appropriate rehabilitation. One reason for this omission of treatment i gender biases. That is, a majority of physicians who explicitly report making their decisions regardless of their patients' gender actually judge women differently. For example, the benefits of cardio rehab for women are misperceived to be smaller and women are attributed with lower motivation for cardio rehab (Kentner & Grace, 2017).

In a meta-analysis that reviewed 623 scientific articles, nineteen studies were examined in more detail, providing data from 241,613 participants, including 80,505 women. The meta-analysis found that women were significantly less likely than men (49.4%) to be referred to cardio-rehabilitation programmes (39.6%) (Colella et al. 2014). Time, money, accessibility, and also the ascribed lower benefit for women lead to lower participation rates of women in cardio-rehab programmes. Some women are not educated about of cardio rehab

programmes, exercises that are not tailored to them might be experienced as painful and tiring, and in addition, family responsibilities and lack of mobility discourage more women than men from regularly participating in cardio rehab (Kentner & Grace, 2017). Furthermore, outpatient cardio rehab programmes provide structured exercise, knowledge, interdisciplinary support, and counselling and have a risk-minimizing and preventive effect. However, women are significantly less likely to be referred to outpatient cardio rehab programs, and men are one and a half times more likely to be referred than women (Colella et al. 2014).

What sounds like the logical starting point of a research and development project – the aforementioned knowledge about the glaring gender gap in cardio rehab – is actually one of the outcomes of the first of the two medicine technology projects, this paper is referring to. The first project, VITAPATCH, will be described in the next chapter, the follow-up project is only a proposal so far, which is outlined in the final chapter of this paper. What lies in the centre of both projects is a technofeminist approach, which combines gender and technology expertise – brought in by the author and her team – along the whole technology design process.

2. Gender-sensitive participatory technology design

This chapter analyses results and collaborative research process of a completed medicine technology project, which received funding for implementing a gender perspective in the interdisciplinary team[1]. Its aim was to develop a multifunctional data patch for monitoring vital signs and movements in everyday environments. Data patches are ECG sensors and piezoelectric elements on ultra-thin stretchable adhesive foils, which send signals to a smartphone app. The potential applications were envisioned from everyday use for fitness monitoring (like a fitness tracker but with the accuracy of a clinical apparatus) to dedicated medical purposes. Based on one year of research the project team decided on a specific use case focusing on cardio rehabilitation. Expert and stakeholder experiences and knowledge had been used by the gender researchers to develop different use case scenarios. Thus the applied gender research could be seen as a technofeminist approach "… of a mutually shaping relationship between gender and technology, in which technology is both a source and a consequence of gender relations." (Wajcman 2004, p. 107).

2.1 The methodological framework of the technofeminist approach

The gender researchers started the project VITAPATCH by integrating knowledge about feminist techno-science into the technology design process, for instance raising awareness on the concept of "configuring the user as 'everybody' and the use of the 'I-methodology '" (Oudshoorn et al. 2004, p.30). I-methodology is based on the fact that technology is developed without involvement of actual users, but by designers and engineers who construct a general idea of a user (an 'everybody') and try to put themselves in the role of the users. The problem with this is that the users' requirements and needs are derived from those of the designers.

Already in the stage of collaborative proposal development between physicists, engineers and feminist STS[2] researchers it became clear that the requirement of integrating gender can be used to apply a participatory technology design approach which includes stakeholders from the very beginning. Later on, when the interdisciplinary team met in their first meetings to exchange ideas about the cooperation, it was agreed that not only an intersectional gender approach, but also ethical, wider societal and even environmental aspects are of relevance and importance to the whole team and this innovation project.

So instead of sticking only to the demanded tasks of reflecting gender in meetings, the project team expanded their methodology and interdisciplinary set-up into a transdisciplinary undertaking drawing on the RRI (responsible research and innovation) values of reflexivity, responsiveness, anticipation and deliberation (Stilgoe et al. 2013) and gender knowledge of the author and her team shaped the whole research process.

[1] The project VITAPATCH – "Multifunctional Data Patch for Vital and Movement Monitoring in Everyday Environments" – was funded by the Austrian Research Promotion Agency (FFG) as a „FEMtech research project" and ran from 2018-2021 (https://www.ifz.at/en/projekt/vitapatch-multifunktionales-datenpflaster-fur-das-vital-und-bewegungsmonitoring). FEMtech projects must consider gender equality in the research team and gender as a cross-cutting issue on a research content level. The project partners were the Human Research Institute of Health Technology and Prevention Research GmbH (project leader), JOANNEUM RESEARCH Forschungsgesellschaft mbH, and the Interdisciplinary Research Centre for Technology, Work and Culture (IFZ). The gender research has been carried out by the IFZ team Anita Thaler (2018-2021), Lisa Scheer (2018-2019) and Julian Anslinger (2019-2021).

[2] STS refers to Science, Technology and Society Studies. Feminist STS respectively feminist technoscience analyse how gender in intersections with other social structures and identity markers is intertwined in sociotechnical practices and politics (c.f. Åsberg & Lykke 2010).

The empirical fieldwork – which put technofeminism into practice – (table 1, part 1 & 2) followed 27 specific objectives and a complex methodology comprising 49 meetings and workshops within the project team, four interviews and four workshops with experts and stakeholders. Additionally, the author and her colleagues in the 'gender team' regularly reflected on the project and the gender dimension among themselves, and assigned another colleague (social scientist) to evaluate the project using semi-standardised interviews with seven project team members (results of the evaluation see: Suschek-Berger & Thaler 2021).

Table 1: Empirical methods used by the gender researchers (part1)

Method	Objectives	Nr.	Actors	Space of time	Docu-mentation
Team meetings	1. To update all project partners about recent technology design activities. 2. To share gender and diversity knowledge relevant for the technology development. 3. To co-create knowledge on participatory technology design with a gender-sensitive approach (e.g. avoiding I-methodology). 4. To exchange information on planned and completed dissemination or publication activities.	45	Engineers and gender researcher(s)	Oct. 2018-Dec. 2019: 8 face to face; Mar. 2020-Sept. 2021: 36 online; Nov. 3 2021 final face to face	Minutes, log
Techno-logy workshop and lab tour	5. To understand the background, functionality and scope of the technology research. 6. To experience the working environment of the technology research.	1	Engineers and gender researcher(s)	Oct. 25, 2018	Log, slides, photos
Gender work-shops	7. To share knowledge about the background of the gender in technology-research approach (Feminist technoscience, STS; RRI) 8. To build a common understanding of 'gender', with special emphasize on queer, intersectional and diversity theories.	2	Engineers and gender researcher(s)	Nov. 21, 2018; May 31, 2021	Log, slides, photos
Expert interviews	9. To explore real life user scenarios for the patch application. 10. To assess potential ethical and/or technological difficulties. 11. To estimate the concrete demand of potential stakeholders.	4	Engineer(s), gender researcher(s) and potential stakeholders (physical therapy, sports science, cardiological rehabilitation, work psychology)	Dec. 4, 2018; Mar. 8, 2019; Mar. 28, 2019; Sep. 26, 2019	Summaries
Self-use tests	12 To experience the piezoelectric functionality of the multifunctional data patch from a user's perspective. 13. To obtain photos for dissemination activities.	1	Engineers and gender researcher(s)	Apr. 5, 2019	Log, photos, videos
Use case scenario workshop	14. To facilitate a decision-making process by presenting all potential use case scenarios including their technological requirements. 15. To assess benefits and difficulties of all scenarios concerning gender dimensions, ethical issues, technological relations. 16. To deliberate about whether a multifunctional data patch application can exceed other existing technologies, and how. 17.To collaboratively decide for one use case, which would be the basis for technology specifications and lead to	1	Engineers and gender researcher(s)	Apr. 5, 2019	Minutes, photos

Method	Objectives	Nr.	Actors	Space of time	Docu-mentation
	upcoming stakeholder /user participation activities.				
Stake-holder work-shops and user feedback	18. To share knowledge about the current development status of the technology. 19. To receive knowledge about different perspectives (hospital/cardiology, physical rehabilitation, patients) of cardiological rehabilitation. 20.To co-create gender-sensitive knowledge about the future application of the multifunctional data patch in the concrete use case of cardiological rehabilitation 21. To decide on a specific cardio-rehab-exercise (to be done at home), to calibrate the functionalities of the multifunctional data patch. 22.To discuss expectations and receive feedback on the multifunctional data patch and its app.	4	Engineers, gender researcher(s), therapists and sport scientists from cardiological rehabilitation, cardiologist, representative of the association aiming at rehabilitation and prevention of cardio-vascular diseases ("Austrian heart association")	Dec. 9, 2019; Apr. 29, 2020; Jul. 7, 2020; Aug., 23, 2021;	Minutes, log, photos
Eval-uation interviews	23. To evaluate whether the gender perspective could add value to the technology development. 24. To evaluate the potentially co-created knowledge within the research project.	7	Engineers and gender researchers	Jul. 2021	Evaluation report
Reflection meetings	25. To reflect on the role of gender research within the technology development project. 26. To reflect on literature, methodology and results from empirical work. 27. To discuss planned and finished activities of the gender team in the project.	28	Gender researcher team	Oct. 2018 - Sept. 2021	Log

All interviews have been summarised, all meetings and workshops documented in a project log written by the gender researchers, additional meeting and workshop minutes have been written in turn by and shared with the whole interdisciplinary team. In the following section I describe a specific phase of the project in greater detail, in order to highlight the role gender research can play within a technology design project using a technofeminist approach.

2.2 One result in detail: Deciding on the use case of cardio-rehab

In the beginning of the project (December 2018 to March 2019) a series of interviews – done by the previously mentioned gender team and an engineer[3] – with experts from physical therapy, cardiology and work psychology led to a broadening of potential applications of the data patch and its app. Furthermore, these interviews brought attention to ethical, legal and other challenges of the project.

By choosing the experts who are talked to, the direction of the technology development can be strongly influenced, what can be seen as "politics of representation" (Rohracher 2005, p. 15) – "When one representation of users becomes dominant, other possible representations are always covered up or 'silenced'." (ibid. p. 16).

However, in the eyes of the gender team the 'greater danger' was to not commit to a specific use case and "configure the user as everybody". Physicists and engineers did not need the specification of a field of application to pursue their work on sensors, the variations of the ultra-thin foil, the miniaturisation of electronics or even the smartphone app> They focused technical difficulties. All these technical solutions can be engineered with a wide variety of use cases in mind.

Yet the author recognised that by keeping the technology supposedly "open" implicit use of I-methodology becomes much more likely. The technology development needed decisions, for instance on the sensors used to

[3] Anita Thaler and Lisa Scheer (gender researchers at IFZ) and Matthias Frühwirth (engineer at HRI) did these interviews in the course of the project VITAPATCH.

measure what kind of body functions (e.g., if the heart rate and a dynamic movement had to be monitored) and the exact location of the patch on the body (which has consequences on the layout of the patch and the design of amplifiers). It all resulted in the need to come up with specific movements of the body which could be monitored by the sensors. Lacking a defined use case, the engineer running the tests in the lab decided on a physical exercise which was ideal for showing features of the monitoring device: rowing. But none of the expert interviews suggested the rowing machine as a potential field of application. The suggestion of rowing then became an example of keeping the technology development 'supposedly open' to 'everybody' and simultaneously showed the potential gendered consequences of this strategy. It was indeed a case "in which designers develop artifacts for 'everybody' [yet] they often unconsciously base their design choices on a one-sided, male user image" (van Oost 2003, p. 196).

In April 2019 the technofeminist team finally organised a scenario workshop for the whole project team, which portrayed all potential fields of applications discussed in previous expert interviews plus additional ideas from media and literature research. When the most relevant use cases were discussed and assessed, the team decided to focus on a societal relevant technology and chose cardiological rehabilitation as field of analysis and application.

In hindsight, this was the phase, where the gender researchers had the strongest influence on technology development. By demanding to configure 'the user as somebody' the relative openness and many options were narrowed down to a specific use case. This can be seen as "closure" in the actor-network theory, although this closure is not a singular event but rather a process, which can theoretically be re-negotiated (Bammé & Spök 2014).

The technofeminist approach of a gender-sensitive participatory technology design has in the meantime been integrated in a series of webinars by the author and her colleagues[4]. Between June 2021 and January 2022, 27 researchers and managers from thirteen Austrian research performing and two research funding organisations participated, to co-create gender equality knowledge specifically for technology research. A follow up project of VITAPATCH is now emerging which I briefly outline in the next chapter.

3. Outlook

In this final chapter I demonstrate how the developed technology of VITAPATCH can result in better and more comprehensive routines and products with an ongoing gender-sensitive technology design. This more comprehensive design approach profoundly impacts medical and safety issues, potentially saving lives.

During the Covid 19 pandemic and associated lockdowns, outpatient cardio-rehab centres expanded tele-rehabilitation services by 52%, according to a Belgian study (Scherrenberg et al. 2021). It showed that videos (71%) and information on websites and via e-mail (64% each) were most frequently offered. Only a minority offered real-time online exercise (14%) and asked their patients to monitor their physical activities via technical monitoring devices (e.g., fitness watches or other wearables) (29%). None of the centres used a smartphone app.

Patients value cardio-telerehabilitation programmes because they are not limited to clinical settings and can be flexibly adapted to everyday life. Telerehabilitation is generally better accepted and more engaging when the programme is consistent with the patient's self-image, can be integrated into daily life, and is not perceived as an extra challenge (Knudsen et al 2021).

In contrast, high dropout rates from the use of mobile technologies in cardiac rehabilitation have been seen due to a lack of acceptance, usability, and user-friendliness of the technologies. Participatory technology development can in turn help to increase acceptance and usability (Meinhart et al. 2021).

In a review of the effectiveness of mobile technologies (such as existing tracking devices, fitness watches, etc.) for promoting physical activity in cardiac rehabilitation, Meinhart and colleagues (2021) found that all thirteen studies analysed addressed the underrepresentation of women, yet women made up for only 14% of

[4] The webinar series was part of the project CHANGE, which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 787177. The Austrian team at IFZ, who coordinates the project, Anita Thaler, Sandra Karner and Julian Anslinger, was also responsible for the mentioned webinar series (more info see: https://www.change-h2020.eu/).

participants in total. Future research must include gender equality already in the sampling, the authors argue (ibid.).

The VITAPATCH project team therefore plans a new gender-sensitive technology design project based on the idea of co-construction of technology and its users (Oudshoorn & Pinch 2003). Harald Rohracher (2006) called this co-construction approach "Mutual Shaping of Design and Use" to underpin the fluidity in technology development as well as use. Specifically, this means that there must be constant back and forth between technology developers, anticipated users, and real users, and that the technology development process must be iterative (Oudshoorn & Pinch 2003). In a next step, VITAPATCH will therefore be expanded into a transdisciplinary project to include experts from cardio-rehabilitation, IT usability, patient representatives, a women's health centre, and a female cardiologist.

The planned project will again integrate critical diversity theory (Herring & Henderson 2012), as it is particularly important to target previously understudied populations in this research field. This is because in order to reach potential rehabilitation clients as comprehensively as possible, it is important to pay attention to "lost clients" in addition to already active rehabilitation clients, so as not to widen the gender gap in cardio-rehab even further by introducing a new technology. A meta-study showed that women were significantly less likely than men (49.4%) to be referred to cardio-rehabilitation programmes (39.6%) (Colella et al. 2014).

The proposed technology should reach potential rehabilitation clients, referred to as non-users in technological terms, should also be targeted. On the one hand, this is to avoid tailoring new technologies only to the target group that is already well reached with existing rehabilitation measures. On the other hand, this is a socio-technical system that does not only consist of a single technology, but is integrated into an interaction of technology and social interactions, in the concrete case with effects on the way cardio-rehab is carried out, who it reaches, how it is integrated into existing programmes, how it is financed, etc. Finally, technologies can also have an impact on non-users (cf. Sally Wyatt's example of non-drivers who are also affected by the socio-technical system of car transport, Wyatt 2003). The goal of the planned project and its gender-sensitive participatory technology design approach is in particular to minimize the gender gap and to consistently target the technology to older and female (potential) users and thus to reduce mortality of patients with cardiovascular diseases, especially women.

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Resisting, Accepting and Supporting Gender Equality in Portuguese Higher Education Institutions: Leadership Profiles

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Abstract: In the European context, Portugal is the country with the lowest number of women (1.9% in 2016) at the top of the academic career and just 30% of women in the leadership of HEIs (*She Figures 2018*; Elsevier, 2021; Cabrera, 2019; Carvalho and Diogo, 2018). Paradoxically, it is also one of the European countries where female academics have the highest publishing productivity (Elsevier, 2021) and make up most of the doctorates (55% in 2016). Only very recently, however, these inequalities began to receive attention. In 2019, for example, women's participation in academic decision-making and leadership became required by law (National Law 26/2019) in all Portuguese public higher education institutions. And levelling effects of this law are soon expected since human resources management in the public HE institutions in Portugal is a centralised system (OECD, 2021). In this context it also becomes interesting to understand what academic leaders think about the promotion of gender equality in HEIs. This paper seeks to address this question. As part of a larger research project exploring gender equality issues in HEIs in Portugal we dethatched qualitative interviews conducted with HEIs leaders throughout the country. The project also involved secondary analyses of national and international data on gender equality and four case studies in HEIs with an action research approach. The outcome of the analysis was an exploratory typology identifying three specific profiles among interviewees – *Resisting, Accepting, and Supporting* – conveying different ways of understanding and dealing with gender equality issues in HEIs. Overall, this qualitative analysis found a greater awareness about Gender Equality than what has been reported in previous research (e.g. Carvalho, White and Machado-Taylor 2013; Carvalho, Özkanli and Machado-Taylor, 2012; Carvalho and Machado-Taylor, 2010). The paper describes and illustrates each of these profiles and discusses implications of these findings for promoting gender equality in HEIs in Portugal and beyond.

Keywords: gender equality in higher education institutions, HEIs leaders' perceptions about gender equality, willingness for change in HEIs

1. Gender equality in Portuguese Higher Institutions

The Higher Education system in Portugal combines past and present elements due to its history of institutionalization and expansion (Teixeira and Sarrico, 2019; Dias, Sá and Machado-Taylor, 2013) and for accompanying the global growth of university systems (Connell, 2019). Factors such as the late transition to democracy, only possible after the end of the dictatorship in 1974 and, since then, a strong public investment in education and science and the European integration partly explains the transformations that have been taking place. Nevertheless, concerning the gender equality agenda, the country lags behind several years when compared to other European countries, with the incipient inclusion of measures to promote gender equality in Higher Education Institutions constituting one among many other examples of this late development, as well as the persistent attitudes of resistance and indifference facing the subject (Amâncio, 2003, Cabrera, 2019, Carvalho, White and Machado-Taylor, 2013).

Regarding the adoption of a gender equality perspective, Portugal is a peculiar and even paradoxical case. Historically the country has had a very high participation of women in teaching and scientific research, and yet, simultaneously, a very reduced proportion of women in leadership positions in HEIs. Furthermore, a recent report from Elsevier "Gender in the Portugal Research Arena. A Case Study in European Leadership" (Elsevier, 2021), features the country as a leader, namely because of the successful female performance on publication metrics as women represent nearly 50% of the active authors in Portugal and tend to continue publishing over time, unlike their European peers. At the same time, however, precarity in research, being also a reality for young men, is even more expressive for women. Thus, one of the reasons that may explain this exceptional leadership of Portuguese women researchers, may exactly be the fact that they publish intensively to try to

increase the likelihood of achieving a permanent position in an university system, mostly public, that struggles to absorb all its candidates.

These inequalities have only very recently begun to receive attention. It can even be said that Portugal is in the first phase of promoting equality policies in higher education. The first HEI equality plan was launched in 2011, in University of Beira Interior, and most of the initiatives that have developed afterwards have been carried out through European funding and partnerships in international projects. For example, it is only in 2019 that the participation of women in decision-making and academic leadership in all Portuguese public higher education institutions becomes mandatory by law (National Law 26/2019). It is expected that this law will cause levelling effects soon, as human resource management in the public higher education sector in Portugal is a centralised system (OECD, 2021). It then becomes relevant and necessary to understand what academic leaders think about the promotion of gender equality in HEIs.

Previous studies point to a persistent discourse that normalises gender inequalities, especially uttered by academic leaderships (Carvalho, White and Machado-Taylor 2013; Carvalho, Özkanli and Machado-Taylor, 2012; Carvalho and Machado-Taylor, 2010). It has also been concluded that the higher proportion of women academics in Portugal (compared to other OECD countries) does not necessarily translate into equality (Carvalho and Diogo, 2018; Carvalho & Machado-Taylor, 2010), even in a changing context. Moreover, the transition from the "collegial" model to the "managerial" model in the Portuguese university system has not led to a greater concern for equality between women and men, remaining hostage to the internal micro-political dynamics of each HEI (Carvalho, Özkanli and Machado-Taylor, 2012; Carvalho and Machado-Taylor, 2010). It is, therefore, very important to know, not only what university leaders think about gender inequalities, but also how willing they are to implement a strategy and/or initiatives to promote gender equality in their HEIs.

2. Methods and analytic framework

The present findings are based on qualitative data collected by the *GE-HEI project: Gender Equality in Higher Education Institutions*, which has national coverage and involves a comparative approach to the European context. The project is funded by the EEA Grants Conciliation and Gender Equality Program, whose operating entity is CIG (Commission for Citizenship and Gender Equality, National Body), and is promoted by DGES (Directorate General for Higher Education), being developed by CIEG (the Interdisciplinary Centre for Gender Studies) in partnership with A3ES (the Portuguese Agency for Assessment and Accreditation of Higher Education) and RIKK (the Institute for Gender, Equality and Difference at the University of Iceland).

The GE-HEI project aims to understand gender (in)equality in HEIs in Portugal in comparison with the European context, both in terms of horizontal and vertical segregation. To this end, it relies on i) the analysis of secondary data, to identify trends and changes in the Higher Education system, at national and European levels ; ii) interviews with key informants in management and leadership positions in HEIs and successful academic women, to gather their perceptions, positions on, and willingness towards promoting Gender Equality; iii) on four case studies in specific and contrasting HEIs to understand Gender Equality organizational norms, perceptions and practices with an action research approach; and iv) the development of general guidelines and recommendations for the integration of gender equality issues in curricula of specific 1st cycle degrees (in connection with the case studies undertaken).

The paper focuses on preliminary results of the qualitative interviews conducted with 12 university leaders of public HEIs, enriched with at least 20 more ongoing interviews collected with successful academic women and in the context of two case studies. The interviews with HEI leaders followed a structured script and were intentionally conducted to lead to a reflection on gender inequalities and their implications for the university context. The interviews were led online, via zoom, between May 6th and July 13th 2020. They were recorded with the verbal consent of all interviewees, who responded freely and who were given the opportunity to add comments and topics they considered relevant. They had an average duration of 88 minutes, were transcribed and analysed through the Maxqda 2020®.

Building on the empirical evidence collected, and supported by the literature review conducted on the subject, we looked for patterns in the interviewees' narratives that could help us understand how university leaders perceive gender inequalities and their willingness to promote and implement equality measures and plans. The outcome of this analysis was an "exploratory typology" (Swedberg, 2018) of leadership profiles (elaborated

below), which may contribute to discussions about the possibilities of developing effective strategies to promote gender equality in HEIs in Portugal and beyond.

3. HEI leadership profiles concerning gender equality

Contrary to what is documented in previous qualitative investigations on Portuguese universities (Carvalho, White and Machado-Taylor 2013; Carvalho, Özkanli and Machado-Taylor, 2012; Carvalho and Machado-Taylor, 2010; Vieira, 2007) the leaders interviewed in this study showed a greater awareness of gender inequalities. This difference can be explained by at least two reasons. First, the recruitment process itself, since it is possible that many of the leaders who agreed to carry out the interview were already the most favourable to GE in Higher Education. In addition, the fact that the interviewees previously received an information sheet with facts and evidence on gender inequality may also have provided them a greater insight about gender inequalities in the academic context. Second, the last decade has been particularly marked by a great visibility and growing awareness of gender inequalities, both in general and in the national and European higher education system (Pereira, 2018; Messerschmidt et. al., 2018), as well as its prioritization by European political and scientific agendas (European Commission, 2020).

However, while gender awareness was generally high, there were also different perceptions and attitudes towards gender equality among the interviewees. More specifically, three profiles were identified: *Resisting*, *Accepting*, and *Supporting*. Following this exploratory typology, and drawing from the 12 HEI leaders interviews, complemented where possible with other qualitative data collected in the project, we develop below these different profiles, describing how they differ in terms of knowledge, interest and availability to implement measures

3.1 Supporting

Most of the Leaders of the *supporting* profile occupy top decision-making positions: 1 female rector, 1 female vice-rector, 1 male in a position similar to that of rector, 1 male vice-rector and 1 male director of HEI. These leaders identify obstacles to Gender Equality in their HEIs and point to concrete causes. They also are available to take action, implement initiatives and have an attitude of self-accountability for the strategies, advocating a top-down and inside-out approach.

In regards to gender equality in general, they consider that the Portuguese society has undergone a noteworthy evolution towards gender equality, which they attribute to the legal, institutional and everyday life achievements of promoting equality in Portugal (a country that has taken "solid steps"). They also note that younger generations are more aware and better prepared. However, they portrait this evolution as a slow transformation process and spot the persistence of significant inequalities that require continuous investment in more measures:

> *"I think there is room for improvement. Again, my vision is very positive from the perspective of the progress that has been made. I think <u>the country has improved</u> a lot and I would say we are on the right track. Nevertheless, and <u>to continue to be on the right track, we must insert elements of pressure here</u>: quotas, the issue of remuneration, the issue of staying at home with the children, etc."*
>
> *(Director, Social Sciences, male, 56 years old)*

Perceiving a context of change that is moving on "the right" direction, this leader recognizes the need for further measures to guarantee continuous improvement towards greater gender equality. Drawing from scientific evidence and relying on concrete facts about persisting gender inequalities, supporting leaders see the reproduction of power logics as transversal in Portuguese society and the effect of those on the Higher Education system. They identify the asymmetrical distribution of women across education fields and their reduced access to decision-making positions as the main inequalities in Higher Education.

Regarding gender equality in their own HEIs, *supporting* leaders signal the tradition of institutional closure of management bodies to women ("it's still a gentlemen's club"), as well as the stereotypical attribution of some areas of responsibility to women ("they gave the campus to the lady, to take care of the house"). Although they consider that this historical trend persists today, they also think that it has evolved towards a greater parity, highlighting the relevance of the "collegiate model" (i.e. where there is a sense of belonging and an involving community) and the sharing of responsibilities in decision-making bodies. The appointment of women to rectory

teams is also seen as an important power-entry mechanism. This access is seen by some as breaking the stigma of female leadership, even though female leaders still have to deal with prejudices:

> *"The first time I ran I was not elected. Still today I have the feeling that one of the issues was: No way, a woman [Rector] no way. That was in 2010!"*
>
> *(Rector, Agrarian Sciences, female, 66 years old)*

The rejection of women to the positions of rector is presented by this leader as a timeless issue, pointing out that the difficulties of access are deep rooted in HEIs culture. Also, when describing their HEIs teaching staff, these leaders acknowledge their vertical segregation, identifying a greater proportion of male full professors/principal coordinators (analogous position in polytechnic HE) and a parity/greater proportion of women in the intermediate (associate professor/coordinator) and lower categories (assistant professor/adjunct). At this regard, they predict a positive evolution and greater parity at all levels in the future, referring to the higher proportion of female candidates in the career's competitions. The increased autonomy of Research Centres and scientific production competitiveness are pointed out as mitigating factors of existing imbalances.

When it comes to strategies to promote gender equality, *supporting* leaders identify concrete obstacles, pointing both to internal and external causes, while emphasizing the need for a transformation strategy based on institutional factors and showing willingness to implement it.

Moreover, regarding the actual practices for gender equality, these leaders largely highlight the important role that higher education institutions can play in fighting inequalities, especially due to their training dimension, prioritising either the inclusion of Gender Equality in curricula or as a transversal competence in the university training provided in their HEIs: "The university is the mother house of knowledge and people's education" (Director, Social Sciences, male, 56 years old). On top of that, these interviewees support affirmative action measures such as quotas or Gender Equality ranking systems (like Athena SWAN Charter), but point to their cautionary use. In this sense, they state the need for a top-down and inside-out approach in their HEIs, revealing themselves as favourable to an institutional change and willing to take the responsibility for implementing it. In fact, all of them mentioned (directly or indirectly) the inclusion of gender equality measures in their electoral programs. Most think they potentially got more votes because of this, but also noted a tendency in HEIs to regard the topic as "political correctness".

In conclusion, this group of leaders, especially when compared with the other two profiles, suggest that gender equality strategies and initiatives in HEIs result as much from awareness and knowledge about gender inequalities as from willingness to implement measures and policies.

3.2 Accepting

Accepting the promotion of gender equality in HEIs was a profile found in many of the Director's narratives, accounting for two female and two male directors of HEIs. These leaders did not identify or found it difficult to identify obstacles to Gender Equality in their HEIs, but tended to adopt a learning attitude towards the subject as the interview unfold. They varied, however, in their evaluation of the need for Gender Equality measures and/or the inclusion of these in electoral programs.

Regarding gender equality in society in general, *accepting* leaders acknowledge substantial advances in Portuguese society, pointing it as a recent social "concern", and predict future improvements, adopting an optimistic viewpoint while viewing cultural traditions as obstacles to gender equality, giving particular attention to family inequalities:

> *"So, I think there have been extraordinary advances in recent years. I have no doubts about it. But there is still a lot of work to do in the deeper dimension of cultural practices, habits, ways of being; we still have a lot to work on..."*
>
> *(Vice-Rector, Humanities, female, 62 years old)*

As this interviewee, leaders in this group tend to look at gender inequalities as primarily an educational problem, arising from childhood socialization and the family environment, which in turn indicates that the focus should be, precisely, at the cultural level. They see the academic environment as a more privileged place, that

nevertheless "imports" society problems: "I think the big problem is educational." (Vice-Director, Social Sciences, female, 43 years old).

Regarding gender equality in their HEIs, *accepting* leaders express some discomfort towards the topic and/or rely on external factors to explain women's (lack of) access to their HEIs management bodies. Some mention that the absence of female leadership is not due to institutional obstacles but by the lack of availability of women:

> *"The times that people have to research, to write, to travel abroad can be different because of the upstream circumstances, which are familiar from the outset."*
>
> *(Vice-Director, Social Sciences, female, 43 years old)*

This leader suggests that women have less time to dedicate themselves to the profession due to their family responsibilities. However, on portraying their HEIs faculty, these leaders describe women as competent, hardworking and collaborative. The increasing number of women among the teaching staff was the most highlighted theme by *accepting* leaders, who emphasized meritocracy in career access as well as the quality of "female" academic performance. Their narratives suggest the idea of a "feminine" future university. These leaders predict that, in the short term, there will be a balance in the distribution of full professors and that more female members will be included in senior positions.

Concerning gender equality strategies, although they demonstrate a high degree of gender awareness and, overall, they point to the social and cultural factors that underlie gender exclusions and discriminations, *accepting* leaders were largely unable to identify obstacles to Gender Equality in their HEIs. Mostly, they refer to external factors as the main causes of persisting inequalities, namely prevailing prejudices, leadership stereotypes and the greater predisposition of men to be career-focused, their higher levels of productivity and networking. Moreover, these asymmetries are perceived almost as if they are "inescapable".

This difficulty of identifying concrete challenges in their HEIs and/or understanding them as the outcome of external pressures conditions also explains the ambiguous way in which these leaders approach their responsibility to solving existing inequalities.

In fact, when it comes to adopting actual gender equality practices, these leaders favour the inclusion of Gender Equality in the curriculum, mainly supporting the promotion of training through transversal skills or awareness raising activities. They are divided, however, in what concerns the use of scoring systems and assessment criteria as well as on women quotas, even though they all claim HEIs compliance with Law No. 26/2019 in their HEIs. Other than that, they did not include, or only did so indirectly/generally, issues about equal treatment in their electoral programs and consider that including them would not have increased the number of votes received. Instead, attention should be given to meritocratic principles and the practical demonstration of equality, such as the appointment of parity teams on management boards.

All in all, they are willing to learn, and accept the idea of promoting gender equality in their HEIs, being eager to implement some of the equality measures suggested in the interview and/or referring the need to have "someone", a focal point or an office, to monitor and implement specific practices at their institutions. Without an *a priori* strategy, *accepting* leaders seem to lack knowledge on gender issues to be able to act properly. While they show a learning attitude, they also reveal a strong inability to understand the extent to which existing barriers actually affect the opportunities of women and men at their HEIs'. This reduced knowledge about gender differences and inequalities result in less effective skills to act upon persisting inequalities, consequently expressing a poorer capacity to integrate those concerns at institutional level.

3.3 Resisting

Resistance regarding gender equality in HEI was unveiled by one female vice-rector and two male directors interviewed. They consider gender equality specific actions unnecessary and are against measures such as women quotas in governing bodies or ranking systems based on Gender Equality implementation. These leaders devalue the subject of gender inequality, arguing that their HEIs do not have a role in promoting change because there has been already a positive development, and because gender (in)equality is mainly an external problem and/or a minor issue.

Regarding gender equality in general, *resisting* leaders see a positive development in the Portuguese society that goes beyond achieving balance, pointing recent themes such as caring masculinities or the need to also include inequalities affecting men:

> *"Sometimes we also don't give men the same opportunity to take on certain positions in the family or in their personal life. Cultural issues are deeply rooted and in Portugal this could have a great influence."*
>
> *(Vice-Rector, Engineering and Technology, female, 45 years old)*

While gender inequality is presented by this leader as a cultural issue, the main problem has to do with the opportunities that men have (or lack to have) to do gender differently. Moreover, *Resisting* leaders perceive the academic world almost as if gravitating in society as a "non-hegemonic" space, believing that, unlike what happened in the past, the absence of formal restrictions leads to a balanced Higher Education system:

> *"It has to do with traditions, with doors that have been opened. A woman could go to Pharmacy, but could not go to Medicine. I still remember hearing these conversations. Therefore, it was natural that in Pharmacy.... There was a very large invasion. There was an imbalance. It was the door that society accepted. There are still these imbalances remnants in Higher Education, in Mechanical Engineering... But less and less."*
>
> *(President, Humanities, male, 58 years old)*

This leader refers to the end of the horizontal segregation in HE, considering that this "very large invasion" that happened when the doors opened will result in a balanced distribution. Paradoxically, yet, despite this idea of evolution, *Resisting leaders* also recognize the gendered segregation in fields of knowledge but they tend to highlight a "gender predisposition" here, thus naturalizing differences and devaluing them as a problem:

> *"There are areas where you can see gender differentiation. It doesn't mean that this is necessarily bad or that there is a problem. It may just be a predisposition to certain areas."*
>
> *(Vice-Rector, Engineering and Technology, female, 45 years old)*

By drawing on the idea of 'no problem', this leader and the others in this group, devalue both horizontal segregation and vertical segregation patterns, normalizing them as individual rather than an institutional question. Therefore, when it comes to discuss gender equality in their HEIs, *resisting* leaders naturalize the predominance of men in HEIs management bodies, not seeing this distribution as a problem. There was even a leader who used his decision-making autonomy to validate and promote this type of imbalance:

> *"I ensured the masculinisation of the management team when I arrived at the Board. The gender division was balanced, but in the meantime, (…) when I joined as Director, it ended up staying [more masculine]."*
>
> *(Director, Exact Sciences, male, 59 years old)*

In the narratives of these leaders, not only do gender inequalities emerge as natural, but in the case of this leader, there is an active effort to maintain and explicitly perpetuate them. So, regarding gender equality strategies, *resisting* leaders recognize that there are obstacles to Gender Equality in their HEIs, identifying particularly the small proportion of female who are full professors and in senior positions. However, as before, they normalize this fact and fundamentally adopt a devaluation attitude and/or do not attribute concrete causes to it.

The way these interviewees face the challenges necessarily conditions the eventual formulation and planning of a Gender Equality strategy that could be implemented in HEIs. In this case, in addition to the absence of a strategy, *Resisting leaders* present arguments to refute the need for transformation and show a strong unwillingness to combat inequalities or promote institutional changes at the most diverse levels.

Regarding gender equality actual practices, they consider the inclusion of the Gender Equality subject as a hypothesis, but only as a complement to other transversal competences of citizenship, refuting the need to address the topic as "compulsory" or "independently":

> *"I am convinced that a good part of the training is based on the way we deal [with students] and not so much on the fact that there is a discipline that easily takes on the character of: «Oh I have*

> *to learn those things. » (…). I think it's much more relevant how (...) people in the institution behave and act in relation to all these types of behaviour."*
>
> *(Director, Exact Sciences, male, 59 years old)*

Although this leader recognizes the importance of informal institutional action, in effect, both him and the rest of this group disagree with the above-mentioned law No. 26/2019, claiming that HE systems evolution has been largely beneficial to women, that they defend "meritocracy" and that their HEIs follow fair measures:

> *"As a woman I am not in favour of quotas. I think it shouldn't be necessary to have quotas. I understand that they have to exist for us to be able to change something in society. I would see the issue of informal rules and the issue of forcing the rotation of positions more favourably than the institution of rules."*
>
> *(Vice-Rector, Engineering and Technology, female, 45 years old)*

For this leader, quotas make explicit an institutional rule that she, being "a woman", does not agree with. Pointing to changes in society as a whole, she rather suggests that there should be an implicit rather than explicit rule system, understanding it as something that will "force" what is "not necessary". The preference for a certain informality when dealing with these issues leads these interviewees to also downplay and/or strongly disagree with Gender Equality ranking systems or evaluation criteria implementation in their HEIs, even stressing that it may be self-defeating and promote discrimination towards the rest of the academic community. Therefore, they understand that measures aimed at promoting gender equality are (by default) particularistic and exclusionary. Unsurprisingly, they did not include Gender Equality in their electoral programs and said they do not know if they would get more votes if they had done that.

In conclusion, *resisting* leaders are characterized by a greater devaluation, ignorance or reduced reference to Gender Equality practices implemented at the HEI, in line with their perceptions and strategies for HEIs. This profile strongly suggests that identification of gender inequalities has to be combined with an understanding of the ways in which it affects the entire institution, which requires greater gender knowledge and skills to ensure a shift towards equality in HEIs.

4. What opportunities for change are available at the level of university decision-makers?

This paper aimed to understand how leaders of HEIs perceive gender inequality and institutional barriers to achieve it, and their willingness to implement gender equality measures and promote transformations in the context of their institutions. As we could see in the brief portrait of the Portuguese HEIs, gender inequalities in academia only recently have begun to receive attention in this country. Moreover, Portugal is a peculiar and even paradoxical case that requires a deep analysis: indeed, despite an increasing presence of women in the teaching and research arenas, female vertical and horizontal segregation in HEIs continue, and is not translating into a greater concern for equality between women and men. It then becomes relevant to understand what university leaders think about gender inequalities and how willing they are to implement a strategy and/or initiatives to promote gender equality in their HEIs.

Overall, interviewees tended to present an evolutionary and optimistic perspective. Based on concrete evidence, on historical facts and/or on a devaluation of the subject, they pointed to the blurring of inequalities over time, portraying the last decades as the opening of new possibilities, especially for women. Where identified, gender differences in family roles and caring responsibilities were considered the main sources of inequality.

Therefore, similar to what had been found in other studies (e.g. Carvalho and Diogo, 2018; Carvalho, Özkanli and Machado-Taylor, 2012), perceptions were more centred around external and cultural/traditional aspects than on institutional features, which would be more amenable to change.

Beyond these global trends, HEI leaders also diverged in a relevant set of dimensions, namely in the importance they give to gender inequalities and the challenges they recognize to achieve GE in their institutions. This greater or lesser gender awareness, higher or lower degree of gender knowledge will, in turn, affect their skills and willingness to promote change in HEIs. In other words, precisely because the development of Gender Equality at institutional level depends on competent people, who can effectively incorporate gender concerns in policies and plans, these data suggest that decision-making processes have to be accompanied by a focus, not only on

increasing awareness among leaderships about existing inequalities in HEIs, but also on the body of knowledge in gender studies to help unpack the factors and processes that create and sustain such inequalities.

This paper was concerned precisely with the willingness of institutions and of leadership to change Gender Equality issues in HEIs, and not only to adopt compulsory measures like Gender Equality Plans in a blind and mechanical way. It highlighted the relevance of leaders having gender equality skills, theoretical and practical knowledge, to be able to implement effective change in HEIs. We therefore recommend the creation and implementation of equality plans in HEIs that not only consider the composition of different HEI bodies and levels (teaching staff, non-teaching staff, students) but also contribute to restructure and advance institutional practices by acting upon existing inequalities and creating learning environments of improvement. This requires a rigorous gender equality assessment to measure and analyse persisting gaps and produce updated evidence. Undoubtedly, today there is a greater awareness of gender equality among the leadership of Portuguese HEIs than ever before; yet, as we have shown, gender equality knowledge and the willingness to act upon existing inequalities remains variable. Moreover, knowledge about gender inequalities appears to be associated with greater willingness to act upon them. Given the important role of Higher Education Institutions for citizenship and the social impact of its scientific outputs, knowledge about gender (in) equalities is, thus, critical to build more gender-egalitarian Higher Education Institutions and, to a great extent, more egalitarian societies too.

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Understanding the Factors Influencing Women's Career Trajectories in STEM Education in Kazakhstan

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Abstract: Although female researchers in Kazakhstan account for 53% of the total, those engaged in science, engineering, and technology fields (STEM) account for less than 45% of the STEM total. A similar pattern is experienced with respect to tertiary education students in Kazakhstan with the percentage of undergraduate women being 58% of the total, but only 32% of the undergraduate students in STEM. Thus, the phenomenon of "leakage" from the STEM educational pipeline starts early and persists, albeit ameliorated with advanced degrees. This study seeks to identify the barriers that deter Kazakhstani women from entering STEM disciplines, from persisting through their studies, and from pursuing successful academic careers. Specifically, the purpose of this study is to identify the extent to which various socioeconomic and institutional factors shape the perception of women towards STEM fields. The major methodological instrument employed is a set of qualitative interviews of female faculty in STEM, designed and calibrated for the local context. The interviewees were randomly selected from one of the largest local universities with a broad spectrum of STEM disciplines. The proportion of indigenous female faculty members in STEM disciplines in this university is less than 25%. The preliminary results reveal that the key barriers are disrupted work-life balance, cultural stereotypes, poor self-assessment, and gender-based discrimination on an institutional level. In addition, factors such as availability of research facilities, job autonomy, involvement in decision-making procedures, and encouragement from the institution emerge as critical facilitators for effective female careers in STEM. The conclusions of this study are expected to inform the development of appropriate questionnaire instruments towards a larger study across a section of tertiary education institutions in Kazakhstan.

Keywords: STEM career, Kazakhstan, cultural stereotypes, gender gap, female faculty

1. Theoretical framework

The issue of female departure from STEM fields, commonly known as a "Leaky STEM pipeline", has been a topic of a massive concern in academia. Gumpertz et al. (2017) measured the likelihood of STEM female faculty departure and indicated that those faculty involved in teaching engineering disciplines are more exposed to a risk of leaving, particularly in between years of three to six. Even though the share of female researchers in Kazakhstan is an overwhelming 53% of the total research workforce, those engaged in engineering and technology account for only 45% of the total in STEM (UNESCO, 2020).

The local authority in Kazakhstan started implementing a concept of family and general policy aimed at fostering gender parity in various economic and social fields in 2017 (OECD, 2017). However, the issue of the STEM-oriented female researchers outflow remains neglected so far. According to the national statistical bureau, the percentage of female researchers with Master's degree involved in Engineering research and development makes up impressive 52% in 2021 (StatGov, 2021). Unfortunately, this number is profoundly smaller for those who pursue PhD and hold Doctor of Science degree with 40% and 17% respectively (StatGov, 2021). This confirms the theory of the "Leaky STEM pipeline" present in Kazakhstani academia among the females' researchers.

Numerous studies have been conducted internationally aiming to identify the factors leading to underrepresentation of female faculty in academia, covering a broad range of institutional and socio-economic issues (Christensen, 2018). While most of the research literature is patently is West-oriented, the research team tried to locate similar studies conducted in countries with a geographic and cultural proximity to Kazakhstan,

but only two such studies were located. The factors identified in the reviewed literature are broadly the following.

Workplace collegiality

Lack of professional networks between female and male faculty is recognized as one of the reasons for the female faculty outflow (Casad et al, 2021; Pascale, 2018). Xu and Martin (2011) examined the effect of an informal professional network in academia and found that women faculty are affected by imbalanced male-dominated professional networks or lack of these networks at all (Hart, 2016). Considering this phenomenon in a more granular way, the authors indicate that it occurs due to the unwillingness of male faculty to recognize female colleagues as an equal member of that community by stressing out her "minority" status (Xu and Martin, 2011).

Workplace climate

The effect of critical mass, or lack of gender diversity on institutional level was identified as another significant factor among STEM faculty. The evidence suggests that the lower the percentage of female faculty present within a department, the more likely the female faculty is disproportionally assigned to undergraduate teaching (Hart, 2016), thus spending less time on that of a graduate level, research activities or leadership positions (Carrigan et al, 2011). This reportedly results in a lower job satisfaction and reduced chances of obtaining career advancement with a higher compensation (Christensen, 2018). The higher involvement of the female faculty in decision-making committees and processes turned out to have a positive impact on the retention rate as well (Taylor et al, 2017).

Job resources and support

Female STEM faculty with a greater job autonomy, job resources and time to conduct research are more inclined to stay at their current institution. Similarly, satisfaction with job compensation, job benefits, and job security turned out to have a direct impact on the intentions of STEM faculty to leave (Christensen, 2018; Pascale, 2018). The positive effect of mentorship, training, and workshops for pre-tenured female professors was justified by the observation that female turnover rate declined by 3% in departments in which a national policy to increase STEM faculty retention rate had been implemented (Taylor et al, 2017).

Career perspectives

One study (Kaminski and Geisler, 2012) discovers that the average number of years for female scholars to achieve tenure, full professor position, is estimated to be 11, but more than half of them end up departing and not reaching this point. Gumpertz et al. (2017) suggest that this departure rate is due to a longer period for a tenure-track female scholar to progress to an associate rank professor as opposed to their male counterparts. Moreover, faculty beliefs that their performance evaluation by supervisors is not based strictly on merit are strongly correlated with the desire to leave (Lawrence et al, 2014).

Family obligations

Christensen (2018) emphasizes increased stress level of female faculty caused by household responsibilities, specifically childcare, resulted in lower job satisfaction and intensifies the intention to leave. A similar pattern was observed in one of Russian university with female faculty admitting that household chores are barrier towards career progression (Didenko et al, 2019). Kuvaeva (2019) investigated this problem comprehensively with case studies at two other Russian universities, finding that female faculty experience a heavier burden than their partners to achieve work-family balance. Prioritizing first, and feeling more responsible for, family chores deprived them from allotting enough time on research, a critical factor for promotion and retention.

Often a flexible, personalized paid parental leave policy is proposed as a remedy and the effect of restricted or unclear access to it through open web sources is evaluated by Schimpf, Santiago and Pawley (2012). Qualitative interviews with female faculty indicate that information deficiency and unclear procedures cause unawareness, whereas adopting flexible, personalized parental leave policies may intensify rising conflicts within the department. As Kazakhstani legislation has relatively flexible maternity leave terms (one year partly paid and

three years unpaid leave), the recruitment of women upon return remains to be another subject for consideration. Contrary to preliminary assumptions, Williams and Ceci (2015) revealed that males in hiring committees still preferred women who took one year maternity leave over those who did not. Whether this flexible approach can be implemented in Kazakhstan remains an open question.

From literature review, it appears that (i) workplace collegiality; (ii) organizational climate; (iii) job resources and support; (iv) career perspectives; and (v) family obligations are primarily responsible for the gender gap in academia within STEM disciplines.

The general objective of this study is to identify the barriers that deter Kazakhstani female faculty to remain within their academic careers in STEM fields. Specifically, this study aims to firstly identify whether the described factors similarly affect the decisions of the local female faculty to retain in STEM academia. Secondly, due to differences in culture and mindset between Western and Asian nations, other potential factors inherent to the local circumstances will be explored. While this is an exploratory study and may not have hermeneutic power over the issues involved, it can serve to identify the range of factors that should be included as potential resolvents in the analysis to follow.

In this context, the following two hypotheses are suggested to reinforce the proposed objective of this study:

- The retention rate of females in STEM fields in higher education in Kazakhstan is similarly influenced by the factors listed in the international framework.
- There are other exclusive factors which are specifically inherent to the Kazakhstani higher education context.

This paper is organized as follows. In Section 2, the methodological steps guiding through this study are described. In Section 3, the relevant findings are derived and synthesized. Finally, Section 4 and Section 5 draw the conclusions along with the limitations and research recommendations.

2. Methodology

The female faculty underrepresentation in STEM disciplines in Kazakhstan has not been broadly examined. To investigate the barriers hampering the development of the female STEM faculty, the qualitative research of structured interviews was selected for this study. This method is particularly suitable in addressing issues with insufficient present knowledge on social and cultural contexts because the interviews provide a distinct opportunity to obtain a more comprehensive understanding of a respondent's beliefs (Mousa, 2021). The interviews provided us with a rich milieu of information to inform the development of a more refined questionnaire. At the same time piloting for interviews illuminated the interview team with the issues involved.

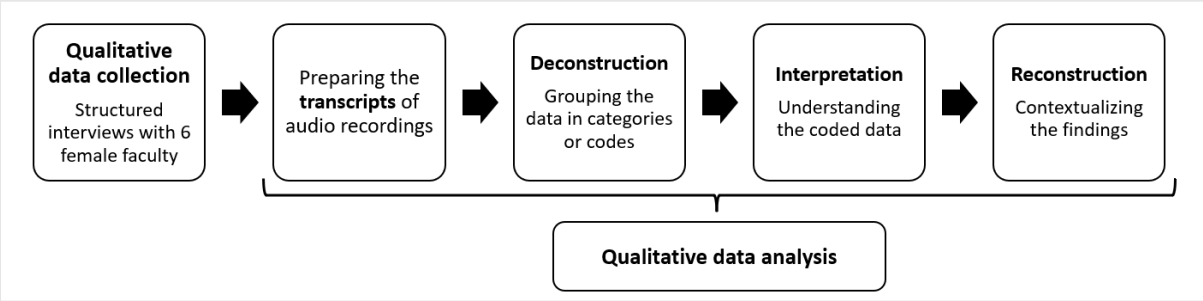

Figure 1: The flowchart of the methodological steps

The interviews allow to shed light on implicit patterns, which could be otherwise omitted through a process of survey. The derived findings from the interviews could subsequently serve as a basis for designing the survey, which will potentially embrace a larger audience and manifest the discussed issue holistically (Ertl, 2017; Tandrayen-Ragoobur and Gokulsing, 2021). The sequential steps guiding through this study are depicted below.

2.1 Qualitative data collection

The choice of female faculty as the interviewees in this study is aligned with Feminist Standpoint Theory, which implies that investigating inequality matters involves focusing on sympathy to those who are oppressed and have no advantage granted by the system (Barthelemy et al, 2016). Therefore, to exhaustively comprehend the

factors affecting women's decision to pursue STEM pathways, their individual perception should be examined inclusively.

Method justification

There are approximately 150 universities in Kazakhstan. However, only four of them offer a full spectrum of STEM disciplines and are listed in the global university ranking lists. Female faculty of these institutions represent the target population of this study. Before running large-scale research, it was decided to test the structured interviews on a selected group of respondents from one of these universities. The pilot study had three aims: (i) to gather data to provide guidance for a substantive study, (ii) to evaluate the data collection and analysis methods; and (iii) estimate the time required for the project. We argue that our methodological findings may contribute to a greater awareness of the important role that a pilot study may have for full-scale qualitative research projects. This argument assumes that researchers, especially novice ones, having conducted a pilot study will be better informed and prepared to face the challenges that are likely to arise in substantive study and more confident in the instruments to be used for data collection. The researchers also can enhance the skills necessary before commencing larger study. By conducting a pilot study, the researcher can obtain preliminary data, evaluate their data-analysis method, and clarify the financial and human resources required.

Sampling data and procedures

The research team performed six structured online research interviews lasting from 30 to 40 minutes each, approved by the Institutional Research Ethics Committee (IREC). Median years of participants' career experience was five years. The participants in this study were asked five demographic and seven qualitative questions. Qualitative questions were aimed at exploring female faculty's teaching load, research workload, job resources, department's climate, job autonomy and work life balance. These factors were recognized as the most ubiquitous ones concerning the female faculty based on the literature investigating a similar domain. Interview participants were recruited by a unique corporate email, were informed on the purpose of the study and only after receiving their written consent, an online interview was initiated. Online structured interviews via Zoom were arranged by the research team each of whom received specific training and certification issued by CITI program. To protect the identities of the respondents, each of them was provided a post-interview confidentiality form, allowing them to specify pieces of data that should remain confidential.

2.2 Qualitative data analysis

Qualitative interviews are often used to investigate people's subjective experiences and to understand their opinions and beliefs. The research team followed an inductive approach to the qualitative analysis aiming at locating common patterns across the observed interviews.

This section starts with the transcript preparation firstly and then follows interpretive analysis which includes three stages, namely deconstruction, interpretation, and reconstruction of the findings (Sargeant, 2012).

Transcript preparation

Having conducted five interviews, the research team transcribed all of them in a text format, ultimately converting around 205 minutes of audio files. The final transcripts were analyzed by two members of the research team of distinct gender to avoid possibility of a subjective bias.

Deconstruction, Interpretation and Reconstruction of findings

Each of the two researchers processed interviews individually and exhaustively labeled relevant words, phrases and sentences that were linked with the proposed hypotheses. The highlighted information was then grouped to form categories or codes, which marks the completion of the deconstruction stage of the qualitative data analysis (Watling and Lingard, 2012).

At the interpretation stage, each transcript was processed to locate the matching data to the formed categories. During this phase, the findings which embrace both commonalities and distinctions belonging to one categorized group were synthesized from all the transcribed interviews (Ramani and Mann, 2016).

The reconstruction phase refers to prioritizing the categories based on the corresponding frequencies of the findings appeared in the interpretation stage. This approach allowed to derive central insights around which sub-themes are built. These insights in turn were framed within and explained the existing theories and evidence based on the previously knowledge generated studies (Creswell and Creswell, 2017).

3. Research findings

After the interviews are complete, the results are analyzed to recognize patterns and gather insights.

The objective of this article is to highlight the importance of such a pilot, the lessons learned throughout the pilot process and the resultant improvisations to the major study of understanding the factors influencing women's career trajectories in STEM education in Kazakhstan. Considering the implicit sensitivities (professional and cultural) in such qualitative interviews, the outcomes of this pilot study are twofold:

- Define the criteria for selecting potential participants within the context of an appropriately representative sample; and to
- Improving the interview guide and the interview questions.

Throughout the interview, several factors hampering participants' continuity in STEM pathways are identified which are discussed below:

Workplace climate

There is a substantial imbalance in the number of female and male faculty in every discipline in favor of men (see Figure 2). Interviewee #1 stressed this issue by the dominance of male faculty in every position ranging from research-related positions to the administrative ones:

> *«Even if you look at all our leadership, we have only one woman, who oversees the training department. The research positions are occupied by all men, all committee members are men, even the department chairs are all men»*

However, any commitment to diversify the campus environment towards gender parity does not seem to be present at this stage, pointing out that the current situation as it should be. The critical effect of gender diversity absence on institutional level was also emphasized in the foreign literature (Carrigan et al, 2011) thus validating the theory of factors similarity to the international context.

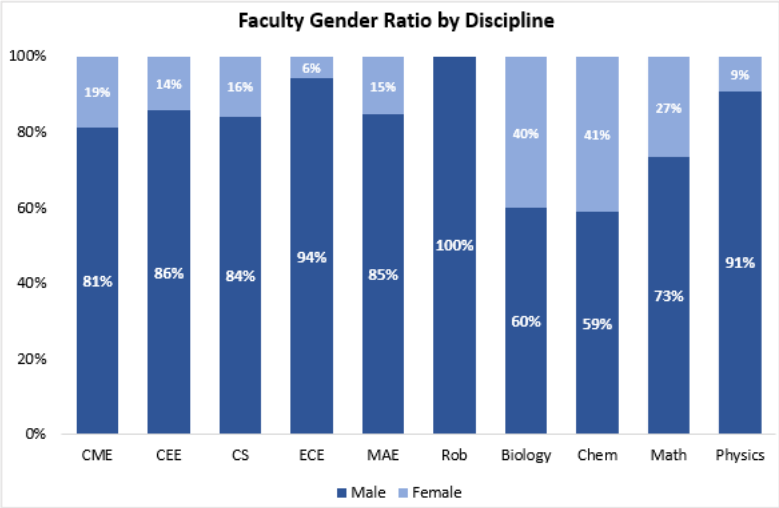

Figure 2: Faculty Gender Ratio by Discipline (CME-Chemical and Materials Engineering, CEE-Civil and Environmental Engineering, CS-Computer Science, ECE-Electrical and Computer Engineering, MAE-Mechanical and Aerospace Engineering, Rob-Robotics)

Moreover, the workplace climate was characterized as *not inclusive*. Commonly, there seems to be absence of transparency in decision-making processes. As a supporting argument, Interviewee #2 mentioned the following:

> *«As a beginner you do not get involved in anything, because other colleagues take everything for themselves»*

She also pointed out that the reason for such behaviour could be the gender as well as the nationality, age, or work experience. Also, it was observed that the female faculty find it difficult to speak up and express their objections, which forces them to convey message through third parties to a higher authority. Most respondents' answers were the same in the way that they are not permitted to take parts in the departmental meetings, especially when it comes to certain decision-making processes:

> *«I usually express my objections through the Professor with whom I used to work together»*
>
> *«All major and departmental procedures are done outside of the department»*
>
> *«The head of department just records videos and tells us what to do. He has also personal committee members, whom I don't know, and they can also take part in making decisions»*

Workplace collegiality

The natural division and lack of informal collegiality between female and male faculty are other points mentioned by several participants, pointing out that the female is viewed as somewhat "different" while entering an informal community consisting of mostly men:

> *«Men might hangout together and discuss some meaningful topics between each other, but once women try to enter the chat, they are regarded as a someone different, as a stranger»*

As for the research environment, it was observed that there is not much collaboration and interaction between the female faculty with the male counterparts within or across the departments too. Female faculty find it harder to integrate themselves with the existing research group led by male faculty. The lack of professional networks between male and female was also observed as a barrier for women in STEM by foreign researchers (Hart, 2016; Pascale, 2018; Pedersen & Minnotte, 2017).

Reportedly, due to the presence of discriminative views, women are obliged to perform beyond expectations to show that they are worthy:

> *«It takes a lot of effort to prove to male colleagues that you're not looser. We have the same degrees, the same regalia, the same publications... why do I have to prove it?»*

Family-related obligations

The participants with children responded that sometimes it becomes very challenging to find a balance between work and life, especially when the children were at the stage of innate babies:

> *«I didn't understand why women leave STEM until I finished PhD, got married and had a baby. You fall out for three years and can no longer work as hard as your male counterparts do»*

Interviewee #3 expressed her concerns regarding job performance indicators, primarily stressing out research workload, which is difficult to maintain during maternity leave due to family-related duties:

> *«When I gave a birth to my baby, I became less competitive in terms of research activities to obtain a tenure compared to those postdocs who were free»*

The back-integration after maternity leave is also complicated as reported by one female faculty:

> *«There was a female applicant trying to apply, but she did not have publications for the rest 1-2 years, because she was on a maternity leave. The hiring administration decided not to hire her due to that reason»*

The barrier in the form of the family-related obligations was also recognized as a hurdle for the female faculty on the global scale as well (Christensen, 2018; Kuvaeva, 2019; Ruder et al, 2018). However, its effect in Kazakhstan could be more pronounced due to national traditions and cultural sentiments based on the patriarchy relationships led by men. Interviewee #6 reinforced that point as follows:

> *«In Kazakhstan, there is more pressure on female on the way that they need to work and to take care of housework, which is different from Western culture a bit. I can say that because I lived abroad for nine years and know how the culture and social norms are a bit different»*

A few participants also mentioned a lack of tolerance from the administrative side to the family-related obligations, mainly childcare:

> *«I have experienced several times when the head of the department told me that "well we know that you are working here like it is not your primary job" hinting at my household duties»*

Job resources and support

Interviewee #4 focused deeply on having more support in the form of mentorship and communities for female faculty, in which they would discuss various options of work continuity:

> *«In general, once a woman starts her job, she is not even viewed as a person who will progress in her career, no expectations at all. I suggest a positive thing would be supporting mentoring community, where they would discuss options to continue»*

Clearly this is due to absence of reasonable number of female faculty. Taylor et al (2017) and Casad et al (2021) also highlighted the positive effects of mentorship for pre-tenured female professors.

Gender stereotyping

Interviewee #3 listed existing common stereotypes about women that are considered incompatible within the STEM field:

> *«People believe that an efficient person has to be very serious and stale, but I think you can be efficient even if you are emotional, talkative and cheerful»*

> *«There is a stereotype here among teaching assistants with respect to an outfit style. They believe that the more stylish you get dressed, the sillier you are»*

Interestingly, Interviewee #5 stated that being perceived as a "weaker" female has its own benefits and she exploits it in her favor in a sense that male colleagues or those from the administration are tolerent to her performance:

> *«As a woman, you are always in a weaker position, so people forgive you some weaknesses. I see that male colleagues are more supportive toward women given that matter»*

Thus, while stereotypes were an irritant to one faculty, her colleague tried to take advantage of it. She also confessed that the males are more predisposed to be a natural leader than women and links it with the local well-established traditions and norms:

> *«If there are two equal profiles of men and women, I think the men would be preferable for the leading position and I agree with that for two reasons: in our country, leaders are usually men and it comes from our Kazakh traditions; also, they are more stable employees since they don't take a maternity leave»*

Workload distribution

Throughout the interviews with female faculty, there were no signs of complaints about teaching load, indicating that it is standard load as per the job contract's terms. Instead, some of the participants stated that the research workload they must cope with is far superior, especially combining with the family obligations:

> *«Generally, I think women are more comfortable in teaching rather than research, probably. For example, I don't want to be involved in research so much»*

Figure 3 illustrates appearance frequency for different factors identified through the six interviews processed.

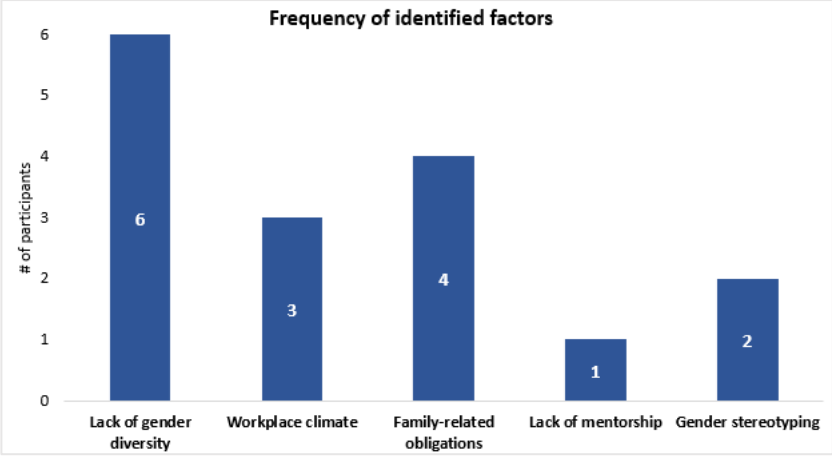

Figure 3: Different factors and their frequency of appearance

It appears that, lack of gender diversity plays the most important part whereas lack of mentorship bears the least significance. Workplace climate, family obligations and gender stereotyping have their fair share as well.

4. Conclusions

This study adopts a framework to identify the factors that hinder women's participation and growth in STEM academic careers in Kazakhstan. Our objective was formulated to test two hypotheses. Findings from this study reveal that Kazakhstani female faculty in STEM experience similar challenges to the counterparts internationally. Some of these challenges are gender disparity, non-involvement in the decision-making process, harsh workplace environment, work life imbalance due to family obligations as well as lack of mentorship. In this context, these factors are primary candidates to be included in the study to assess their relative importance in Kazakhstan.

It is interesting to observe that there is no general dissatisfaction related to teaching and service load in contrast to the literature on the subject (Pascale, 2018; Pedersen and Minnotte, 2017; Ruder et al, 2018). In addition, occasional less expectation from female faculty seems to be contrary to the common belief of the glass ceiling concept. This in turn may cause potential barrier to career growth for female faculty although some may find it temporarily beneficial. To avoid that, the university should make a conscious effort to include females in the top decision-making processes. As Botella et al. (2019) suggest both parties can benefit from the inclusion as it impacts the university and its sustainability potential.

Finally, two additional factors have been identified, namely (i) the cultural and social norms in Kazakhstan; and (ii) the liberal maternity leave policy, which should be included in the study as well.

5. Shortcomings and further research

Considering that the sample of the interview was obtained from one university, there is a question whether the leads obtained are adequately representative.

The pilot study also revealed some methodological issues that should be addressed during the interview process.

- Each question consists of sub-questions making it difficult for the interviewees to structure their responses. Increasing the number of questions so that each question relates to a specific topic could be an improvement.
- An interviewee may be stressed/anxious during the interview. Well-thought arguments and memories do not always come to the mind during the interview (human factor). Sending a list of questions before the interview, will help to generate ideas.
- During the interview interviewees were asked to make a list of positive and negative factors which generated extensive responsive and therefore requires the creation of a structured response.

- To develop the topic in depth and make the respondent more relaxed, the interviewer should be able to ask leading questions, which does not exactly fit the description of a structured interview and hence the interview time may be extended.

The full study will of course be extended to include female faculty from other universities, as well as female students currently studying in tertiary and secondary level of education to better understand the root causes.

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Womxn as Agents of Change to Transform the Post-Apartheid City

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Abstract: The built form of South Africa's post-apartheid city perpetuates the perception that a heteronormative, protestant, white, masculine, binary norm is the societally preferred perspective. This perpetuation means that queerness, spirituality, womxnness – and all those included within this community, are pushed down by this perceived preferred type of person. This paper presents secondary data on the current social and cultural milieu that restricts womxn from being agents of change in transforming the post-apartheid city. Architecture is complicit in what drives the masculinity that manifests itself in built form. Consequently, existing and future architectural interventions within the post-apartheid city fall short in their attempts to transform the city. Anecdotally, this failure is due to the reluctance to include womxn in the architectural programme of these interventions. This lack of transformation results in the phenomenon that the subdued group at the bottom of the social hierarchy remains silent, as they are left without adequate room to act, be seen, or establish their voice. This paper theorises how this zeitgeist[1] perpetuates post-colonial capitalist industrial linear economy thinking or the masculine approach. The approach vested in profiteering from natural resources and an oppressed labour force. As a result, there may be a connection between the successful implementation of this masculine thinking approach and the global ecological breakdown, proven to be due to the human-caused climate emergency. Finally, this paper argues for a newly established agenda that will inform architectural interventions for programmes that encourage a balanced (feminine and masculine) approach as a contributing solution.

Keywords: heteronormative, post-apartheid city, queerness, transformation, womxn

1. Introduction

This paper presents an argument for womxn as agents of change in the post-apartheid city. A literature review is provided on heteronormative and queer, protestant and spiritual, white and Black, masculine and feminine, binary and nonconforming, colonial and indigenous, linear and indigenous, and African and Afrikaans. The literature review is followed by an intersectionality concept illustration based on the theory discussed in this paper. The concept is applied to four hypothetical participants, and the connection or exclusion of these participants to the post-apartheid city is discussed. The post-apartheid city of Tshwane is presented and some of the theories and an intervention concept are graphically illustrated in the urban context. This paper finally presents brief findings and a conclusion.

2. Preface

There is a heavy presence of autocratic leadership in masculinity. Autocratic leadership is a repeated motif in so many terrible ways, and it seeks to proselytise through religion, gender, education, and space. It is a play that coexists with delight and brutality throughout history. The history of colonisation in South Africa is heavy and violent, and the post-apartheid city is a legacy that prevails. Throughout history, missionaries were directly involved in acquiring land and establishing the rule of their monarch, resulting in the prevalence of western ideology and religion. Colonialism, and consequently apartheid, perpetuated the development of the post-apartheid city – a city in which indigenous and marginalised people relinquish their culture and identity to enter the city's fray for economic survival (among other reasons). The relinquishment renders these citizens complicit in the exploitation of natural resources through forming a part of the oppressed workforce (cheap labour). There is a tension between economic survival, history, and sense of self and culture. This paper argues that the key to transformation is vested in the inclusion of womxn and marginalised groups as agents of change.

3. A review of literature

The built form of South Africa's post-apartheid city perpetuates the perception that a heteronormative protestant white masculine binary perspective is the norm that is societally preferred. This perpetuation means queerness, spirituality, womxnness – and all those included within this community – are pushed down by this perceived preferred type of person. In addition, there is a heavy presence of autocratic leadership in masculinity that is proclaimed and performed in public through buildings and occupied space.

[1] Zeitgeist, or spirit of the time; the spirit characteristic of an age or generation.

The aim of this paper is to illustrate the connection between masculinity, public buildings and space, and the post-apartheid city. Figure 1 presents the personal level of people who dwell in the city and Figure 2 presents the urban level of the post-apartheid city. This paper introduces a necessary discourse when considering intersections such as gender. In addition, this paper proposes an intercepted form as a concept to catalyse transformation. Therefore, various terms and topics presented in this paper must be listed.

It is essential to know the definitions of the terms to which this paper refers. In South Africa, apartheid was a system under which people were separated by law based on their race. White people were given more political rights, education, and other privileges (Cambridge, 2021). Apartheid cities originated from legislation phases, such as the Native (Urban Areas) Act of 1923, often viewed as the foundation stone of urban apartheid (Parnell, 1991). This Act divided colonial cities into high-standard spaces that were intensely regulated for the colonial population, and low-quality poorly regulated spaces for the indigenous population (Simon, 1989). Another noteworthy phase of legislation was the Group Areas Act of 1950, which authorised the forced removal of people to separate race groups (Freund, 2010; Smith, 2003) and pronounced white people as established legitimate urban citizens (Maylam, 1995). One of the objectives of apartheid was to maximise the exploitation of cheap Black urban labour while minimising the presence of the Black labourers in white urban areas (Pirie, 1987). The apartheid-legislated racial separation lasted from the National Party's assumption of power in 1948 (Smith, 2003) until 1994. White supremacist rule (Jackson, 1998) formally ended on 27 April 1994, which was the day of the first democratic election in South Africa. On that day, apartheid cities became post-apartheid cities, but the legacy lives on. For this paper, post-apartheid cities are the built-form legacy of a divided past.

When it comes to conversations about the concept of apartheid and its effects across time and ideological lines, we seem to be more divided and separated than ever— perhaps more divided due to these ideological barriers – some of which are inherited similarly to how the democratic government inherited governing systems and protocols from the apartheid government. The post-apartheid city presented in this paper, Tshwane, represents a particularly vivid case of these separate lives. When looking at buildings in the city, like the hierarchy of the ABSA building that previously was the Volkskas building (Verhoef, 2009), and the neoclassical colonial architecture of the buildings surrounding Church Square, you will recognise how history manifests itself in complex ways through everyday routines and the mundane. The buildings speak of a type of language, a particular culture, ideology, and way of living that reflects the binaries and heteronormative ideology.

Heteronormative ideology refers to the pervasive and persistent belief that there are only two opposing genders (Van der Toorn, 2020). This belief carries negative consequences that enforce the belief that assigned sex results in matching associated 'natural' roles of masculine and feminine. This belief holds that heterosexuality is a given, as opposed to one of many sexualities (Warner, 1991). Heteronormative ideology supports an environment for compulsory heterosexuality with gender roles developed to uphold a patriarchal system, where the purpose of women is diminished to the service of men, to reproduce offspring, to play the role of mothers, and to be wives (Butler, 2003).

A protestant is a member of any of the Western Christian churches that are known as protestant churches. These churches are separate from the Roman Catholic Church (Oxford English Dictionary, 2021). Many of the Dutch East India Company employees who formed part of the white settlement in South Africa from 1652 onward were French Calvinist protestants, Lutheran Germans, and Scandinavians (Dehmoune, 2016). Afrikaner nationalism, and consequently apartheid, was steeped in a religious bias that the Afrikaner is superior to other South African ethnic groups (Bosch, 1986; McNeil, 1967), and arguably, other African ethnic groups. Furthermore, the protestant religion places the man as head of the home and he is assigned the role to protect and provide for the family (Van Staden, 2014). This paper argues that a disproportionate protestant-built representation exists in the post-apartheid city, deterring diversity and inclusion. This argument is based on the findings that the protestant church represents heteronormative ideology, plays a prominent part in the justification for apartheid, and also plays a part in the justification for the built environment the apartheid regime constructed that reaffirmed the white characteristics of the legitimate citizen.

White is one of the four groups recognised in terms of the Population Registration Act of 1950. The groups are white, coloured, Asian, and Black (Smith 2003). White was defined as what was perceived by the ruling whites as pure of blood, of European descent, and with a light skin complexion (Posel, 2001). Non-white South Africans were denied rights such as property rights and access to adequate education (Smith 2003). With further gender-based restrictions to rights and access when considering that women, of whatever race, were always seen as

less or below men of the same race. Gender has traditionally been viewed as binary, directly following either male or female biological sex (Morgenroth & Ryan, 2020). Challenges to this binary, such as gender-inclusive language with gender-neutral pronouns, have been met with strong opposition from groups such as religious groups (Korolczuk & Graff, 2018; Darwin, 2020) and legislation that we still carry as a legacy today such as the Immorality Act of 1957 (Cock, 2003).

Masculine refers to people who have qualities or an appearance traditionally associated with men and denotes a gender of nouns and adjectives conventionally regarded as male (Oxford English Dictionary, 2021). For this paper, it is argued that heteronormative ideology dictates that those assigned as male at birth are men and expected to be masculine. Whereas queer ideology is argued to be nonconforming and thereby states that those who say they are male are men and that male, female, and non-binary people can be masculine, feminine, or neither in varying degrees. Furthermore, this paper notes the connection between apartheid, heteronormality, protestant, white, and male.

Feminine refers to people who have qualities or an appearance traditionally associated with women and denotes a gender of nouns and adjectives that are conventionally regarded as female (Oxford English Dictionary, 2021). For this paper, womxn is the term associated with the queer community. In the past, queer was a term describing homosexuality and used as homophobic abuse, with the aim to shame, insult, and accuse those to whom it was directed (Butler, 1993). Today the term queer has been reclaimed as an umbrella term for all those culturally marginal sexual and gender self-identifications (Jagose & Genschel, 1996). For this paper, to live as queer and/ or to be, present oneself as, and/ or provide for queerness is being an agent of inclusion and diversity. Womxnness is an alternative to womanness that refers to a fact or quality of being a woman. The alternative spelling of womxn is used as an intersectional concept that seeks to include every person who identifies as a womxn, such as transgender womxn, womxn of colour, and womxn of the developing countries (Kunz, 2019).

In academia, the term womxn is used to acknowledge the prejudices, discriminations, and institutional barriers faced by those who are not men (Kaufman, 2018). For this paper, the word woman is amended due to its root in patriarchal power structures that still systematically exclude, devaluate, and oppress womxn. In the same way, for comparisons in this paper, protestant is associated with the masculine and men, so the feminine or womxn is associated with spirituality. Spirituality is the quality of being concerned with the human spirit or soul, as opposed to the material or physical things (Oxford English Dictionary, 2021). Spiritualities have transformative possibilities (Lafrance, 2005; Foley, 2000). When considering these transformative aspects, spirituality can be a space of possibility or recovery for various marginalised communities towards alternative spaces of spirituality that seek social change and transformative politics (Rhee, 2014). Furthermore, spirituality is argued to be a source of sustainable energy for decolonising, anti-oppressive endeavours, and anti-oppressive commitments (Dillard, 2006; Hooks, 1994; Kumashiro, 2009). Spirituality is connected to nature (Heintzman, 2009; Kamitsis & Francis, 2013). For this paper, to be spiritual is to be anti-oppressive and reject the promotion of apartheid or separateness. This paper furthermore notes the connection between the feminine, queerness, and being spiritual. These qualities form a multi-layered intersectionality that becomes stronger or weaker between individuals when interacting with the post-apartheid city.

Intersectionality is a term that Kimberly Crenshaw (1989) coined for the interconnected nature of social categorisations, such as gender, race, and class (Oxford English Dictionary, 2021). However, the concept may be attributed to activities before 1989 when considering movements such as the Orange Free State Native and Coloured Women's Association in South Africa. In 1913, the association protested against laws for passes instituted for African women, thereby showing race and class solidarity (Lewis & Baderoon, 2021). A person or group has their own unique experience of intersectionality as overlapping and interdependent systems of discrimination or disadvantage. For this paper, intersectionality is used to identify where a person or group is marginalised based on religion, race, gender traits, gender conformity, colonialism, cultural groups, and/ or heteronormative conformity. The charts illustrated in Figure 1 may expose oppressive power by identifying the degree of intersectionality a person holds and if their intersectionality allows for greater connection and/or exclusion within the post-apartheid city.

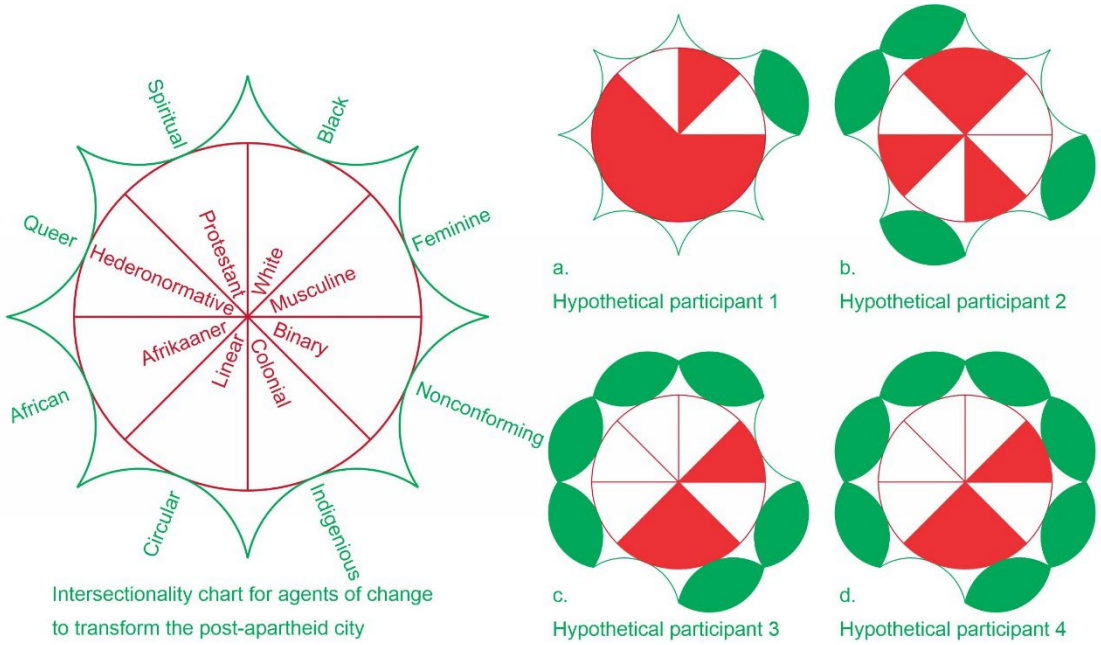

Figure 1: Intersectionality presented graphically: The heteronormative protestant white masculine binary perspective is illustrated as the norm, in red is societally preferred groups, and in green is queerness, spirituality, womxnness – and all those included within the community who are pushed down and orbit the perceived preferred type of person

Related to Figure 1, the following inferences may be made through the theoretical lens of this paper.

- Hypothetical participant 1 (Figure 1a) is a white person, assigned female at birth, a woman adhering to a binary. She is colonial and lives in a way that strengthens a linear economy. She is Afrikaans, heteronormative, and atheist. Her intersectional connection to the post-apartheid city is 75% (6/8 red segments) with only a 12,5% (1/8 green leaves) exclusion from the post-apartheid city, and 12,5% of her intersectionality not applicable due to being neither protestant nor spiritual.
- Hypothetical participant 2 (Figure 1b) is a white person, assigned female at birth, who is neither masculine nor feminine and nonconforming to a binary. They are colonial and live in a way that strengthens a circular economy. They are Afrikaans, queer, and protestant, as well as spiritual. Their intersectional connection to the post-apartheid city is 50% (4/8 red segments) with a 50% (4/8 green leaves) exclusion from the post-apartheid city.
- Hypothetical participant 3 (Figure 1c) is a Black person, assigned male at birth, who is masculine and nonconforming to a binary. They are colonial and indigenous and live in a way that strengthens a linear economy. They are African, queer, and spiritual. Their intersectional connection to the post-apartheid city is 37,5% (3/8 red segments) with a 75% (6/8 green leaves) exclusion from the post-apartheid city.
- Hypothetical participant 4 (Figure 1d) is a Black person, assigned female at birth, who is feminine and masculine and nonconforming to a binary. They are colonial and indigenous and live in a way that strengthens a linear economy. They are African, queer, and spiritual. Their intersectional connection to the post-apartheid city is 37,5% (3/8 red segments) with 87,5% (7/8 green leaves) exclusion from the post-apartheid city.

The intersectionality concept illustration in Figure 1 is based on the theory discussed in this paper, and is limited in that the inferences made are also limited. However, some rudimentary parallels may be drawn:

- Firstly, parallels between the intersectional factors that contribute to excluding a person from the post-apartheid city are also factors that may contribute towards a person's participation in a circular economy, feminine approach, or feminine economy that contributes to addressing the climate emergency.
- Secondly, parallels between the urban form of the post-apartheid city and the intersectionality toward connection or exclusion of the people who live in it.

It is necessary to discuss the post-apartheid city in greater detail to explain further the diversity of concepts of this paper.

4. Tshwane as a model post-apartheid city

This paper presents secondary data on the current social and cultural milieu that restricts womxn from being agents of change in transforming the post-apartheid city. Tshwane previously known as Pretoria, was founded in 1855 by Dutch settlers (Howe, 2021) and is one of the three capital cities of South Africa. The city of Tshwane is used as a case study. The central business district of Tshwane is chosen as the area of study. Figure 2 depicts the landscape, settlement, and formation of Tshwane (adapted from Jordaan, 1989:27).

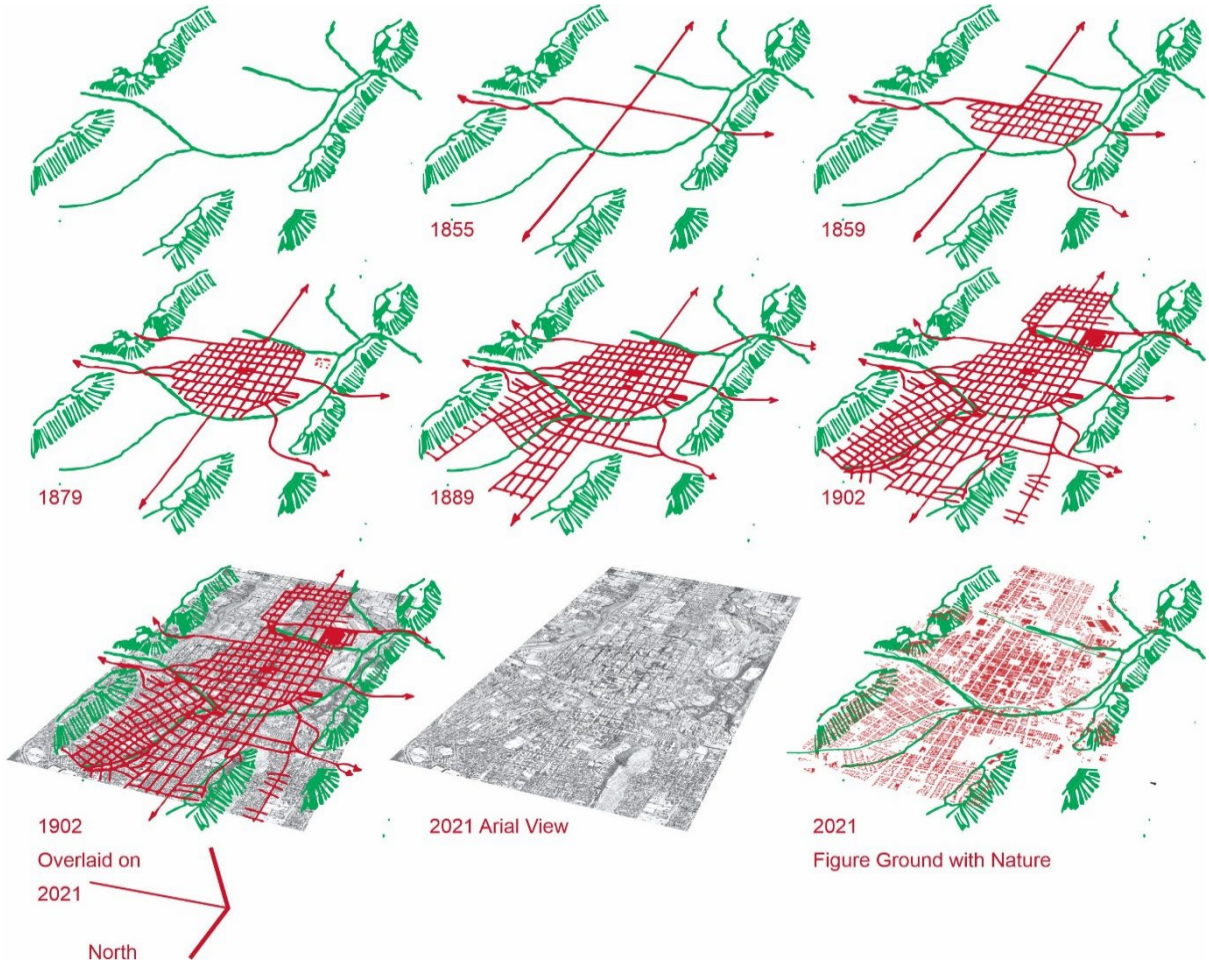

Figure 2: Top six images depict the landscape, settlement, and formation of Tshwane (adapted from Jordaan 1989:27). Bottom three images depict the 2021 Tshwane aerial view of the study area with 1902 overlaid, 2021 Tshwane aerial view, and 2021 figure-ground with natural topography added. The feminine natural topography is illustrated in green, and the masculine manufactured urban and typography structure is in red

Tshwane is landlocked and is located in the northeast of South Africa in the Gauteng Province. Tshwane is described as a valley surrounded by the hills of the Magaliesberg range (Figure 2 indicates the feminine natural topography in green and the masculine manufactured urban and topography structure in red). The natural topography of Tshwane is argued to be feminine with characteristics such as rivers providing emotional support that nurtures and cares (Jordaan, 1989). The manufactured urban and topography structure are thought to protect the city (Jordaan, 1989). This paper argues the structure is masculine, for example the edges, grid, and cross with Church Square at the centre and forts on the periphery. It must be noted that the argument of this paper is not to declare that all manufactured forms are masculine, but rather that the built form (space and form languages) of the post-apartheid city was and is designed with masculine heteronormative and even protestant ideology at the foundation of its many forms.

The city's manufactured urban and topography structure is not characteristic of Tshwane in the same way as natural topography. This city structure dates back at least 8000 years (Figure 3) (Jordaan, 1989). The layout of

the city of Tshwane is therefore not indigenous and originated at a time when humans transformed from hunter-gathers to farmers (Betti & Beyer, 2020) and started to exploit nature and natural resources for surplus or profit.

Figure 3: The city structure, based on the cross, diamond, and mandala

Church Square is Tshwane's symbolic centre and originally hosted a protestant church (Van der Vyver, 2018). The square currently houses a statue of Dutch and Afrikaner Past President Paul Kruger (Figure 4) (Van der Vyver, 2018). The culture of white protestant masculinity is interestingly placed dead centre inside the feminine natural topography of mountains and rivers. Church Square's context is created by nature and culture (Jordaan, 1989). However, as argued by this paper, in Tshwane, only one culture (the white protestant) and one gender (the heteronormative masculine) are prevalent and dominant.

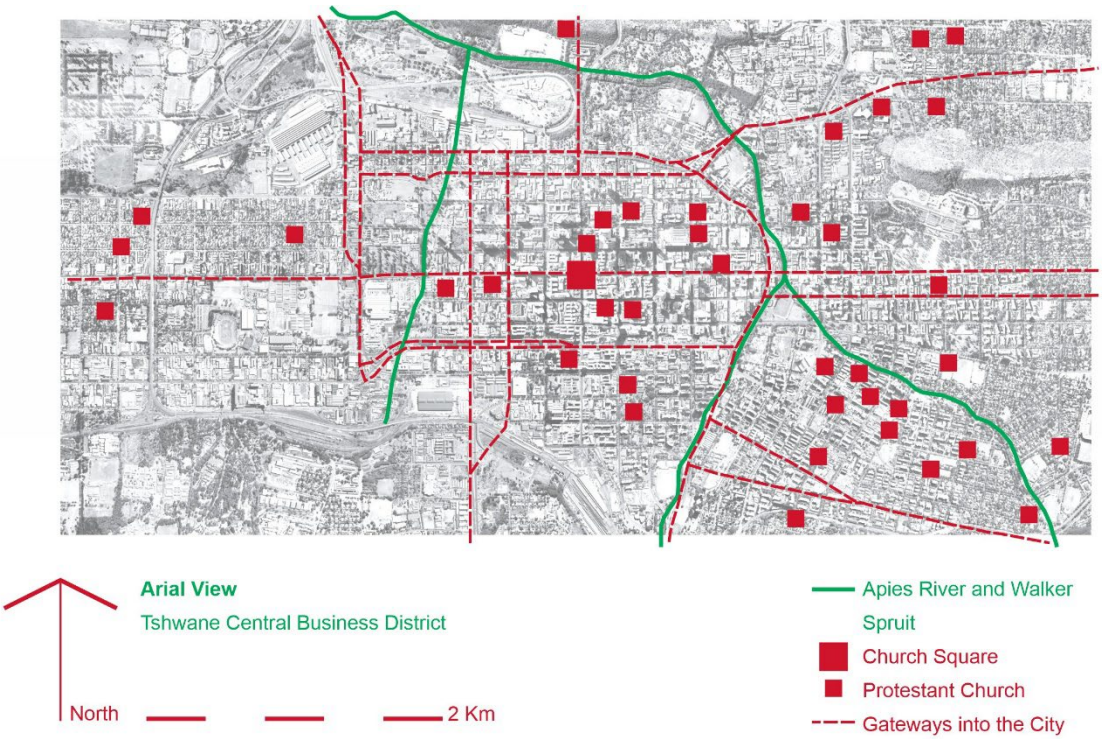

Figure 4: Tshwane aerial view of the study area with Apies River and Walker Spruit, Church Square, protestant churches, and the road gateways into the city

The way that nature, as related to femininity and spirituality, is restricted, not integrated, and therefore is underutilised as a force of transformation and replenishment that catalyses a circular economy, may be seen as a metaphor for how the city restricts womxn from being agents of change in transforming the post-apartheid city. Architecture is complicit in what drives masculinity and how masculinity manifests itself in the built form. This paper argues that the masculine structure of Tshwane restricts post-apartheid attempts to transform the city with architectural interventions. Anecdotally, this restriction may be due to the reluctance to include a representation by womxn of the feminine in the architectural programme of these interventions.

Therefore, this paper argues that the built form of Tshwane must be intercepted by the very nature that nestles and holds it. Among the many interventions possible within the post-apartheid city, nature as the spiritual feminine that represents womxn may be the most significant catalyst currently underutilised towards the transformation of the post-apartheid city. Restrictions of the womxn and the feminine nature on an urban scale and social level are observable in the study area map found in Figure 4.

5. Womxn as agents of change

There is a lack of transformation in post-apartheid cities, among them Tshwane. This paper argues that the lack of transformation is because womxn in varying levels of intersectionality are at the bottom of the social hierarchy. There womxn are subdued into remaining largely silent, as they are left without adequate room to act, be seen, or establish their voices. Social variables such as gender, restriction, or aid, the right to the city, and a sustainable city are unattainable unless a city is free of fear of violence against womxn (Datta, 2021). The post-apartheid city must be a safe and welcoming place for womxn if transformation is to occur.

Social constructs that conform to normative gender roles, such as the division of labour, are found to reinforce heteronormative ideology (Sumontha, Farr & Patterson, 2017). Parents with traditional gender role attitudes are more likely to discourage and change the gender-nonconforming behaviours of their children to fit in with societal expectations (Spivey, Huebner & Diamond, 2018), even though such parenting causes harm. For example, in Tshwane, based on the cross, diamond, and mandala, the city structure results in a masculine grid with predominantly square block buildings. This paper argues that this artificial urban and topography structure discourages the very nature in which it is nestled. In the same way, parents of queer children discourage the children's queerness.

The post-apartheid city must call out and condemn any discouraging of womxn if transformation is to occur. In addition, this paper proposes that the natural (as relating to feminine and spiritual, and representative of womxn) must intercept the city and propose an intercepted form toward transformation and a circular economy that replenishes rather than exploits.

6. Intercepted form

Intercepted form is described as an intervention towards reconstruction. Interception is the first stage of subsequent events and reconstruction, an interpretation formed by piecing together bits of evidence. This paper argues that the post-apartheid city needs an intercepted form towards an alternative typology (Van Tonder, 2010) for transformation, among other things. This interception is illustrated in Figure 5 as a graphical exploration.

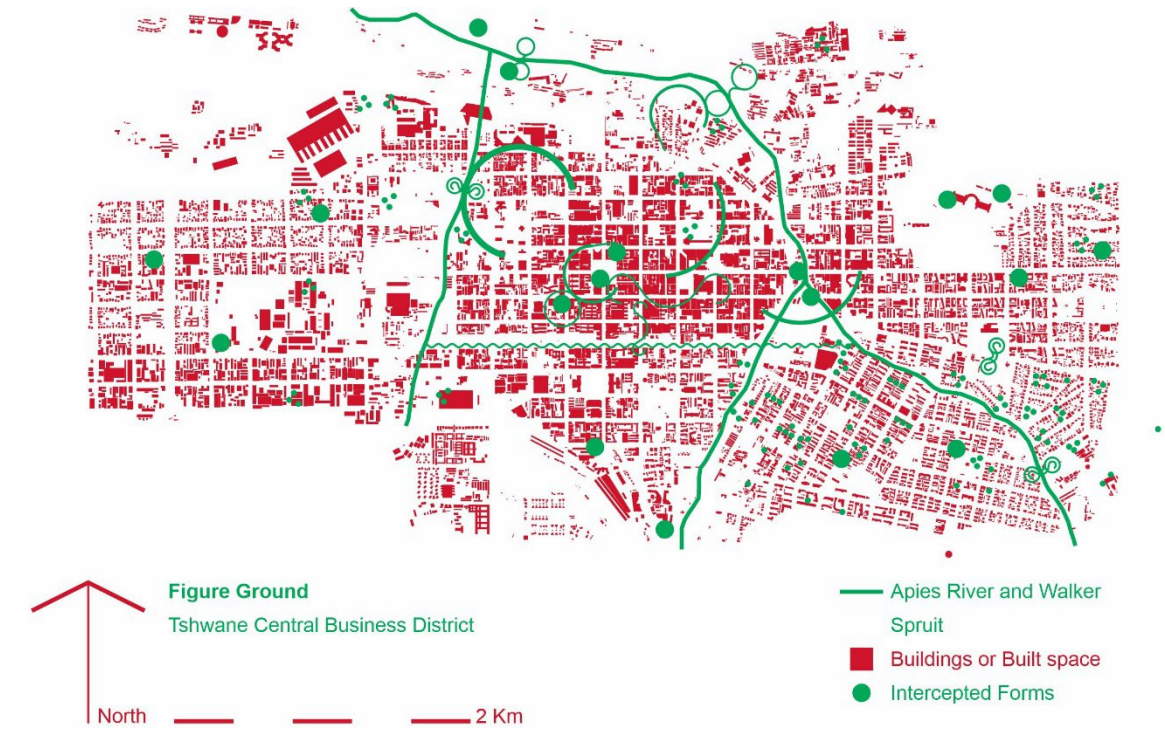

Figure 5: Tshwane figure-ground of the study area with Apies River and Walker Spruit with post-apartheid city buildings in red. An intercepted form or alternative typology is added in green and is based on forms derived from Thomas (2021)

7. Findings

The concepts and theoretical framework briefly discussed in this paper extend far beyond what is presented and argued. The issues embedded in the transformation of the post-apartheid city are vast, complex and integrated. This paper presents only one contributing argument: The argument against the genderisation of the city structure. This argument is illustrated by the masculine-feminine binary at play at an urban level (Figure 2 to 5) and at a personal level (Figure 1). When one type of person emerges as societally preferred, and the structures and systems of that society align to progress and protect that one preferred type at the expense of others, then an imbalance occurs. This paper argues that the city is out of balance with nature, and what is natural and human. This imbalance results in consequences that can be dire when considering the legacy of apartheid and the climate emergency we are facing. The emergence of womxn as agents of change will hold the key to the transformation of the post-apartheid city and will contribute towards a circular approach the economy and city will use.

8. Conclusion

There is an argument for how the characteristics of a masculine post-apartheid city perpetuates the post-colonial capitalist industrial linear economy thinking (or masculine approach), vested in profiteering from natural resources and an oppressed labour force. This paper finds that systems and structures such as protestant religion established the heteronormative white masculine binary perspective as the societal norm and facilitated this exploitation of nature and labour. As a matter of urgency, it must be noted that masculine thinking has been successfully implemented and has resulted in a capitalist industrial linear economy thinking that contributes to the current climate emergency. Due to limited space and the need for brevity, these concepts were not further presented in this paper. However, there are opportunities for future research to show these connections and the implications.

The structure of power today, and the distribution of wealth today, remains almost identical to during the apartheid regime; societies remain unchanged because systems and structures put in place remain unchanged. South Africa is a rainbow nation that speaks of diversity and inclusion. An essential part of diversity is the depth of meaning, texture, and emotion that different voices bring to a narrative. Therefore, this paper argues for a newly established narrative vested in womxn as agents of transformation. This narrative is about inclusion, not erasure, and includes all voices, striking a balance between the masculine and feminine, because to include the feminine voice is to preserve indigenous practices. Inclusion is an act of remembrance, whereas to negate existence is to forget.

Transformation of the post-apartheid city will provide a newly established narrative vested in an indigenous-thinking circular economy. An agenda that includes womxn will inform architectural interventions that include programmes that encourage a closed-loop circular economy (or feminine approach), contributing to a solution. Interventions that include nature as related to femininity and spirituality, and representative of womxn, will result in an intercepted form that will replenish rather than exploit.

It took decades to build the segregated apartheid city that we aim to dismember and reconstruct (Parnell, 2002); therefore, the redemption of the post-apartheid city will also take time. There is a need for effort and continuous adjustment, consideration, reimagining, and redefining, along with inclusive participation that will result in belonging and investment among the citizens who form part of the city of Tshwane.

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A Partnership Approach: Supporting and Empowering Vulnerable Women Within one UK City

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Abstract: This paper draws upon a three-year longitudinal qualitative evaluation of a voluntary sector strategic partnership and delivery project involving eleven women-centred organisations. The consortium, funded by the Big Lottery (charity), worked together to support the most vulnerable women and girls across a city in the north of England 2017-2021. The partnership of eleven female led organisations delivered front-line services which aimed to enable women and girls to lead safer and healthier lives. Partners combined their expertise to support women with multiple needs including: mental health, domestic abuse, sexual violence and exploitation, experience of the criminal justice system, sex work, and substance misuse. The project aimed to achieve 3 outcomes: *Outcome 1*: Improved and extended access for vulnerable women and girls in Leeds to the services and support they want when they choose; *Outcome 2*: A holistic response to ensure that the needs of women and girls with multiple and complex issues are better supported; *Outcome 3*: Women and girls will be empowered to support their peers and influence service delivery, development and design across the city. Our evaluation placed the project staff, partners, stakeholders and service users at the centre of qualitative data collection, using a co-produced Theory of Change approach to data collection. Our sample of 34 service users, 35 professionals (19 interviewed twice) and monitoring data shows that the project successfully met its objectives and developed a model of practice that could be used in other contexts to support and empower vulnerable women.

Keywords: evaluation, domestic abuse, women, peer support, partnership, model of support

1. Introduction

The Crime Survey for England and Wales year ending March 2021 reported 844,955 offences of domestic abuse, a 6% increase compared to previous years (ONS 2021). The World Health Organisation (2017) notes that violence against women, in particular intimate partner violence and sexual violence, is a major public health concern as well as a violation of women's human rights. The WHO estimates that 1 in 3 (35%) of women worldwide have experienced either physical and/or sexual intimate partner violence in their lifetime and approximately 38% of murders of women are committed by a male intimate partner (WHO 2017). Such violence negatively affects women's physical, mental, sexual, and reproductive health as well as impacting upon the physical and mental health of children as a result of exposure (SafeLives, 2014). Support from specialist services can reduce the impact of domestic abuse (SafeLives, 2014; Women's Aid 2022). The intervention discussed here is located in a northern city in England, located within a county which had the second highest recorded rates of domestic abuse-related offences of all regions in England and Wales during the year ending March 2020 (ONS 2020).

In the USA, gender-specific approaches attempting to respond to the multiple needs of women in holistic ways have been operating for a number of years (Bloom et al 2003). Evidence suggests that relational interventions in which gender-responsive, strengths-based humanitarian services are offered work well in supporting vulnerable women who access them (Goldhill, 2016). In the UK context, many voluntary sector organisations use women centred models as mechanisms to meet complex needs. Such support is gender-specific (for women only), holistic (attempts to meet a variety of needs) and based on relational trusted support through working with the same worker (Warwick-Booth and Cross 2020). Evidence shows that women often engage with such voluntary agencies, even after periods of non-engagement with statutory services and imprisonment (Anderson, 2011). There is wide ranging expertise for women-centred approaches within the UK voluntary sector and evidence illustrating the cost-effectiveness of such work (Walby 2004; Home Office, 2014). This paper contributes to the evidence base about gender-specific approaches by exploring a service model held within a partnership (eleven organisations working together to influence strategy), assessing the extent to which both met their aims and objectives.

2. Project background

Eleven women and girls' organisations from the voluntary and community sector in one northern city in England formed the partnership responsible for the project. The partners came together to specifically bid for a Big Lottery grant under a funding stream specifically for developing Women and Girls' Initiatives across England. Sixty-two projects were awarded funding, all intending to empower women through the development of tailored

support. The funders supported learning and evaluation as part of this work (Tavistock Institute 2021). This paper reports on how this consortium, worked to support the most vulnerable women and girls across a northern city over the four-year period 2017-2021 The focus of the service delivery was to holistically support the most disadvantaged and vulnerable women. The partnership also aimed to influence local services and strategy by advocating for women's needs. The project delivery model consisted of seven elements illustrated in figure 1.

One – Virtual Hub
Online/web-based presence linked to the project which provided information about services, as well as opportunities for women and girls in the city. It included a searchable directory of services.

Two – Community Engagement Service
Consisted of drop-ins across the city, awareness raising sessions and the promotion of the project.

Three – Complex Needs Service
Intensive, specialist one to one support for women and young girls: mental health; young women; Black and Minority Ethnic, Migrant and Newly Arrived women; Domestic Abuse; Sex Work, pregnancy and post-removal. Women were referred into the service via 11 partner organisations.

Four – The Women and Girls' Hubs
External meetings that created a space for any woman or girl to speak and contribute to voice and influence across the city. Information gathered via the Hubs was used to facilitate conversations with key local decision makers (commissioners and locally elected members).

Five – Peer Support
The development of a peer support network and linked best practice.

Six – Service User Participation
The project aimed to empower women to participate in shaping the service provision through the creation of an internal advisory group which met regularly. Work focused upon recruitment of staff, planning events and supporting the evaluation.

Seven – Learning
Throughout the project delivery period, learning and development were key. Continuous review, evaluation and monitoring were embedded into the project and partnership.

Figure 1: The seven elements of the project

3. Methodology

Our qualitative evaluation was conducted from April 2017 to April 2020. Data from interviews, focus groups and observations were used to assess the project's effectiveness against its intended outcomes and to support a test and learn approach to service delivery. We drew upon co-production principles (Warwick-Booth et al 2021) to place the project staff, partners, stakeholders and service users at the centre of data gathering. To ensure that the evaluation was rigorous we developed and tested a Theory of Change (TOC) which provided a framework for data collection (see figure 2), to understand the context in which the programme was operating (Judge and Bauld, 2001).

Our evaluation adopted a qualitative feminist approach. Such approaches are broad ranging and varied, so we operationalised feminist values by recognising the power dynamics present within the research process (Abell and Myers, 2008), attempting to address them by exploring lived experiences and articulating the voices of women whose knowledge has traditionally been less visible (Cross and Warwick-Booth, 2015). Co-producing knowledge with stakeholders and participants enabled us to evaluate the 'softer' outcomes that were described as important from their perspective, rather than drawing upon our own 'expert' ideas. We also used reflexivity to recognise the implications of our own identities and positionality compared to participants. Female researchers from the same local area are better received in women-only spaces, and we also took care to use inclusive language in our practice, rather than formal academic speak. We sampled purposively drawing upon the experience of staff to select appropriate service users for inclusion, ensuring that we minimised the psychological impacts from them sharing their experiences.

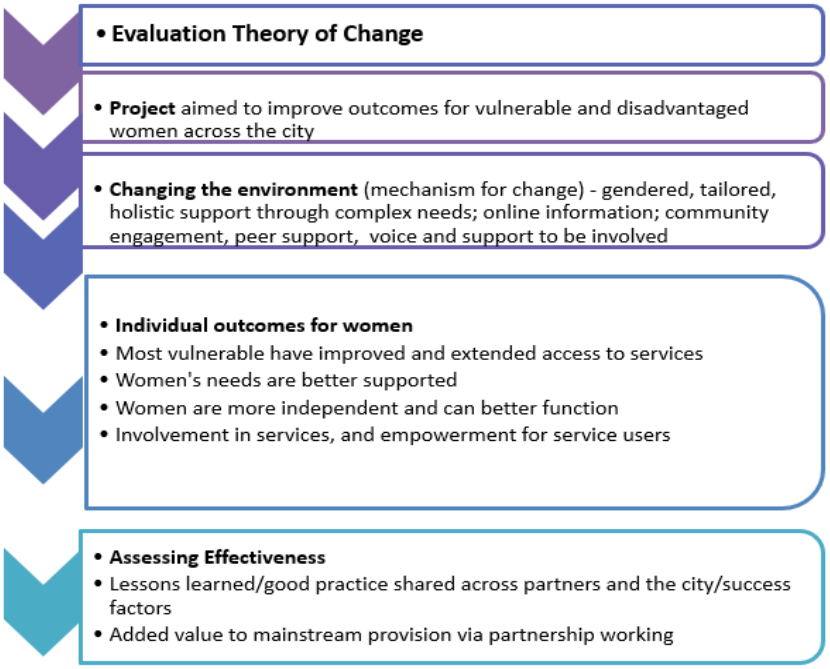

Figure 2: Theory of change

3.1 Service user data collection

A total of 34 service users took part and were interviewed in person or via the telephone, subject to their preferences. Service user schedules focused upon experiences of support, their involvement in the project, their outcomes as well as issues with the service. The evaluation team attempted without success to interview women who had not engaged with the support or had exited the complex needs service early.

Complex Needs Service users (n=16) were interviewed following exit from the Service. Qualitative comments from forms completed by women (n=25) exiting the service were also reviewed.

Advisory Group members were interviewed to explore their experiences of participation (n=4).

Hub attendees were interviewed in 2018 (n=2), and two focus groups were held with women attending (n=12)

3.2 Data collection with professionals

We completed a total of 54 interviews face-to-face or via telephone with 35 professionals, 19 were interviewed twice to capture learning over time. Interview schedules covered the project approach, its delivery, its impact upon service users, partnership experiences, learning, and suggestions for improvements.

Interviews were conducted with: professionals who referred into the service (n=4), impartial external professionals (n=4), the CEOs of the consortium partners (N=11, follow up n=7/8), the independent Chair, staff (n=12) involved in project delivery (5 Complex Needs Workers, 4 Community Development Workers, 3 staff members from the Core Team administering the project), and newly appointed staff (n=3). A focus group with a mix of workers (n=12) was conducted to explore collective learning from the project's model of delivery.

3.3 Service review with professionals

During March 2018, following one year of project delivery, a Service Review took place, with the evaluation team conducting focus groups to capture learning and challenges. Four focus groups were facilitated, segregated according to organisational roles:

- line managers

- the core team
- Chief Operating Officers
- staff members (Complex Needs Workers and Community Development Workers)

Staff were also invited to submit comments via email (n=2). Schedules covered the spread of support within each organisation, roles, commitment, respect and culture. Learning from the review was disseminated internally and used to shape service changes. For example, the Community Development Service was re-focused into a Community Engagement Service.

3.4 Analysis

Interviews and focus groups were recorded and then transcribed, aside from in one instance where a participant preferred not to be recorded (n=1), so notes were made. The data were analysed using Framework Analysis, with the initial framework drawn from the Theory of Change (see Figure 2) to organise data according to our evaluation aims. Framework Analysis develops a hierarchical thematic structure to classify and organise data (Ritchie et al., 2003), with patterns and connections then identified. Themes were agreed by members of the research team. Internal monitoring data was also descriptively analysed and mapped against the evaluation aims.

3.5 Ethics

The evaluation received ethical approval from Leeds Beckett University. The following practices were adhered to:

- Informed consent – written or verbal consent was obtained from all participants;
- Right to withdraw – during or after interviews. One professional withdrew a follow-up (2nd interview)
- the day after participating;
- Confidentiality and anonymity – no personal identifying information is used in data reporting;
- Secure information management –through password protected university systems.

4. Findings

Outcome 1: Improved and extended access for vulnerable women and girls in Leeds to the services and support they want, when they choose

Online Virtual Service Directory

The Virtual Service Directory and online communications were intended to be conduits to both support and information for women and girls through information about services and opportunities for involvement. An internal survey of users resulted in the website being restructured in January 2018. Following this restructure the top searches for specific services were for mental health and domestic violence support.

4.1 Community engagement service

Evaluation data showed that the Community Engagement Service successfully increased access to project services across the city, achieving more than its intended target of information provision to both women in the community as well as professionals. The service also worked well to engage with hard-to-reach communities. A Community Engagement Worker viewed it as particularly effective in extending access to women from ethnic minority communities:

> *"I feel like especially women from ethnic minority communities, they don't necessarily access mainstream services in the way that other people might. And it's important to have community-based organisations such as this, where they feel comfortable and where they're able to access support."*

The Community Engagement Service reached women and girls through: workshops and events (4,326); community groups (1,831); and drop-in sessions (1,186). However, the drop-in service across the city was inconsistent and the service review led to it being refocused in 2018. Following which, here was high staff turnover, (8 staff left in under a three-year period) which resulted in a disjointed drop-in offer. Workers

delivering the service expressed frustration at being unable to work directly with women who presented with great need, and instead had to refer them on.

Outcome 2: A holistic response to ensure that the needs of women and girls with multiple and complex issues are better supported

4.2 Complex needs service

The most important learning from the evaluation was evidence about the success of the Complex Needs Service. The centrally managed service was underpinned by partnership arrangements that worked to glue the project and partnership together because of the shared commitment to holistically supporting service users. One worker said:

> *"No one women and girls' organisation has all of the specialisms and knows everything. There is more skill together than separate."*

Complex Needs Workers were hosted within partner organisations which had expertise in one specialism. They met regularly, and shared learning about service provision throughout the delivery period. They carried caseloads of women offering them needs-based provision; practical support (e.g. attending meetings, language support); emotional support; listening, trusted relationships; and proactive engagement. The average length of support within the Complex Needs Service was 9 months. Caseloads were re-assessed after the first year of delivery and were lowered to a maximum of 12 for a full-time post and 10 and 8 for shorter, part-time posts, to accommodate the high levels of need being seen within the service. Reduced caseloads enabled workers to support women for longer, to address their needs more fully. The Complex Needs Worker supporting women selling sex, had a caseload of 10 (maximum) for a 35 hour per week post, due to the level of trauma in service users. Service users with multiple complex needs required more frequent, intensive, time-consuming support due to the complexities of their lives. . Complex Needs Workers were provided with external clinical supervision to help them in coping with their roles.

Our evaluation illustrated that the delivery model of the service being gender-specific was crucial to its overall success, as was its holistic focus. One worker described it as:

> *"Tailored holistic support in the form of an intensive, specialist service…suited to individual need [that] was on-going and flexible"*

Being gender-specific led to the service being viewed as a safe and confidential space, delivered by women supporting women. Service users reported feeling better understood and safer working with other women (the all-female evaluation team was an extension of this ensuring women felt safe sharing their experience of the project); appreciating the practical consistent support which better met their needs; and working at their own pace towards positive outcomes. One service user valued not having to retell her story to different professionals:

> *"I don't have to explain from beginning to the end. You don't want to go through again and over and over and explain…It makes me more anxious. So, I always prefer to speak with one person and that's it."*

This led to a range of positive outcomes for service users including increased confidence and independence, meaningful occupation and healthier interpersonal relationships. Our evaluation found that the Complex Needs Service was unique and valuable, and that it made a difference to the women who accessed it. Service users and staff reported that the service, modelled on trust and relationship building, was key to achieving positive outcomes. Service users said:

> *"I truly believe that she [Complex Needs Worker] has saved me, not just from myself but from life. She has given me a glimmer of hope that life is worth living if I choose to do so."*

> *"When I got in touch with [service] it was like a relief that I finally had that sort of worker that was seeing things from my point of view and getting the job done in some ways… it was all about what you were comfortable with and what's best for you."*

The service offer was unique in that the model of support was linked to specialist workers, embedded in a city-wide partnership. The Complex Needs Service was the most successful element and brought added value through its city-wide reach. The Complex Needs Service supported 234 women in total. Their presenting needs

included mental health, financial issues, recourse to public funds, housing and physical health. 39% of service users had more than 5 needs documented at referral.

Outcome 3: Women and Girls will be empowered to support their peers and influence service delivery, development and design across the city.

4.3 Women's and girls' hubs

Hubs were successful at raising awareness around gender-specific issues, and empowering women and girls to influence city-wide services, conversations and strategy. The Hubs were embedded within the city's formal voice and influence arrangements during the project:

> *"[Project] has raised awareness of gender-specific issues and influenced city-wide services, conversations and strategic planning" External Partner*

Statutory agency workers changed their practice due to increased understandings of gendered needs. Examples from external agency workers detailed gender-specific training within the Local Authority in the form of menopause workshops for all staff, as well as gender and domestic abuse being added into more conversations where they had previously been absent e.g. when football tournaments were taking place.

Women attended the Hubs for a range of reasons including: advice; awareness; networking; representing marginalised groups; and as professionals. The Hubs were seen as useful networking opportunities, they facilitated the sharing of information and provided opportunities to discuss and identify women's issues.

Women's Hub met over 12 times during the funding period. The Girls' Hub continues to meet monthly, and over 1,500 Women and Girls took part in activities facilitated through the Hubs. The work of women in the Hubs led to a successful funding application for further gender-specific work in the city until 2022.

4.4 Peer support

Peer Support was built into the project delivery model through the development of an approach for use in practice and the creation of a network of peer supporters. Service users were offered opportunities to work as peer supporters hosted within the 11 partner organisations, as well as through coming together more broadly through a city-wide peer support network. Our evaluation data illustrated that women liked to work in groups of their peers especially focusing on specific projects such as supporting other women and income generation through funding applications. Peer support was described as valuable by both professionals and service users, and enabled some women to develop leadership skills as well as increasing their confidence:

> *"It's been a big major part of my recovery in all avenues from domestic violence and drink as well and boundaries and have better relationship with the key people in my life like my kids and my family." Service User*

> *"We have lots of young women who've had support themselves and then they get involved in the project, and then they start to support others. So, it can be that kind of peer support and that lived experience being really important." Staff member*

During the funding period:

- 12 women passed an accredited Peer Support Training Programme, 2 were offered external paid Peer Support opportunities
- 114 women took part in other Peer Support opportunities
- 4 Peer Support groups were established within partner organisations
- Staff and service users co-produced the city-wide peer support network

4.5 Service user participation

Service users took part in the ongoing learning during the project delivery including the evaluation. The project developed a specific service user function in the form of an Advisory Board, focused on providing advice about service delivery. However, Advisory Board members were excluded from Partnership meetings. Service users

reported positively on their involvement with the Advisory Board because it gave them voice, purpose, skills and respect:

> *"It's usually, like, these faceless bigwigs isn't it… that are making these decisions in these services, you know, and the Advisory Board kind of breaks that down and adds that link that isn't there between them and the women who have accessed these services."*
>
> *""It does sound amazing when you say to people 'oh I'm on the Advisory Board' it does sound really you know 'ooh'. Or having that on your CV. It is very impressive"*
>
> *""I was looking at something that I could use my brain, not just look after children, not just do cleaning and ironing, not just being a mum, not just be a victim of domestic violence, and that's what I was looking for. You know I wanted to broaden out and just try different things."*

During the project lifetime:

- 2,229 service users contributed to project learning through various activities
- 58 service users attended meetings or were members of the Service Users Advisory Board
- 258 Women provided individual feedback about services they have accessed
- 34 service users took part in the evaluation

Our evaluation data captured some important outcomes linked to service user involvement e.g. different recruitment practices for staff due to service user views being taken on board. However, whilst the aims of this work were clear, and feedback mechanisms for service users were built into some practices, being excluded from Partnership meetings was a source of frustration for Advisory Board members, leaving gaps in the co-production approach.

4.6 The partnership

The seven elements of project delivery were situated within a wider partnership of 11 organisations who had previously competed for funding. Competition continued during the lifetime of the project. Although, there was some successful history of co-delivering services, on a smaller scale e.g. organisations had worked in pairs, this larger scale approach with more partners was new. The issue of the competitive funding environment was never formally addressed through Partnership meetings, despite some discussions about implementing a non-compete agreement. There were many tensions in the Partnership meetings, arising because of the competitive environment, resulting in the appointment of an Independent Chair in 2019 to oversee meetings, and remove the responsibility of chairing from Partner members. As Partner organisations were different in size, experience, structure, and culture this resulted in some power imbalances despite attempts to be inclusive and supportive especially in relation to smaller partners. Different dynamics within the partnership led to reports of *"not all voices being heard".* One CEO said:

> *"…when you're a very small organisation, you're just doing your day-to-day run of the mill kind of your job. You don't really know what's going on in the wider picture of things."*

Facilitators of the partnership included project delivery (especially commitment to the Complex Needs Service), the project team and its leadership, the appointment of the independent Chair and the level of commitment shown by partners. Challenges reported in the partnership included problematic attendance at meetings, time pressures and conflicting priorities. Benefits from being involved in the partnership included increased capacity, feelings of belonging, building relationships and opening opportunities, peer support and leadership network links, information sharing and communication, support with sustainability, and improvements across the wider city system which benefited women and girls. Learning was cited as important by all Partners irrespective of the size and structure of their organisation. Partners said:

> *"The peer support has been good. It's good to be able to call someone else up to talk something over as this is an isolating field to work in. It's good to get advice or copies of policies from others that we can use."*
>
> *"The point of the consortium is to be more powerful together, to have more connections and to share the specialisms."*

In summary the evaluation findings reflect a successful model of support (service), which built upon learning throughout the funding period to ensure that service user needs were met, however this took place within a problematic partnership and a time limited project.

5. Discussion

The academic literature suggests that organisations offering women-centred approaches to service provision are effective at meeting client needs. Using holistic, joined-up, women-centred, participatory approaches is the best way to work alongside women with complex needs, who are likely to face barriers in accessing support (Women's Aid, 2022). The nature of the intervention is very significant, women must be at the heart of the provision and supported in a holistic and gender-specific manner (Warwick-Booth and Cross, 2020). Service user outcomes from this project further support evidence in this area with holistic support underpinning positive outcomes. The importance of a women-centred approach needs note here as the relational methods used by the workers (Complex Needs Workers) form the mechanisms by which trust and healthier relationships are promoted (Covington, 2007; Warwick-Booth & Cross, 2020). Furthermore, voluntary sector service location and flexible service delivery are mechanisms of successful gender-specific interventions (Warwick-Booth & Cross, 2017), especially when combined with advocacy and multi-agency working (Cleaver et al, 2019). The delivery model implemented here also offered opportunities for collaboration and involvement for service users, facilitating empowerment in support of managing trauma symptoms (Petrillo et al 2019). Peer support evidence from the evaluation shows influence in relation to service delivery but it could have been extended further to include Partnership involvement, so was not fully co-productive (Warwick-Booth et al, 2021). Evaluation data did not capture experiences of women unable or unwilling to engage, or have their needs fully supported. Given the challenges of complex need, it is unlikely that every woman who needed support could access it. Time-limited funding does not support sustainable service provision, a well-recognised challenge in relation to voluntary sector delivery despite significant evidence of cost effective, successful work (Women's Budget Group, 2020).

The creation of a gender-specific consortium in one northern city attempted to ensure that the combined expertise of eleven organisations was drawn upon to avoid service duplication, to extend reach to the most disadvantaged women, to enhance learning and to develop strategy for wider women's services. Evaluation data captured positive reports of access and resonates with evidence from the USA demonstrating that community-based coalitions can be useful mechanisms for creating policy change, starting with awareness raising. However, internal coalition challenges can limit success (Kowalzcuk et al, 2017), all issues identified within our evaluation. Knare et al (2015) discuss the importance of consistent coalition membership and participation, the ability of partners to identify issues, to leverage resources, to draw upon evidence (local data), and to access internal and external resources; with the partnership under evaluation meeting these markers of success, despite the challenges reported.

6. Conclusion

Our evaluation showed that the project was successful in delivering holistic, women-centred services within the city, and that it enabled service user involvement through multiple mechanisms. Furthermore, the project worked as a glue to keep partners invested in the more strategic work, though there were many challenges within the partnership. Whilst the Big Lottery funding stream encouraged joined up working, partners still have to operate in a competitive funding environment to survive which creates challenges in particular for successful partnership processes.

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The Future of UK Work-Family Rights: The Case for More Flexible Working

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Abstract: The Covid-19 pandemic has highlighted both the significant impacts that the UK lockdown rules have had for working women with caring responsibilities, and the potential of flexible working practices to redefine the ways in which people work. This paper will first examine the current UK right to request flexible working and its limitations particularly: the requirement for 26 weeks continuity of employment; the wide discretion that employers have to refuse such requests; the lack of ability to challenge employer's decisions; and the limited ability to make subsequent requests and/or to make temporary changes. The paper will then critically examine the UK Department for Business, Energy & Industrial Strategy's consultation 'Making Flexible Work the Default', which addresses the some of these concerns, namely, to change it to a day-one right to request. This examination will consider whether a greater shift to flexible working as the default position, and a redefining of working practices and the work-life paradigm, can have a positive impact for working persons, especially those with caring responsibilities and/or other work-life conflicts. In particular, the paper will critically analyse whether a societal shift to more flexible working can redress the impact of the pandemic for working women with caring responsibilities. In doing so, the paper will reflect on whether this shift represents a challenge to the traditional unburdened worker norm or whether it will continue to reinforce traditional gender roles. Further areas for reform and development will also be identified, including enhanced rights for working fathers and a recognition of new and emerging areas of work-life conflict, such as Menopause in the Workplace, as highlighted by the Women and Equalities Commission's inquiry on this topic.

Keywords: flexible working, work-family rights, Covid-19, working mothers, care

1. Introduction

The Covid-19 pandemic has highlighted both the significant impacts that the UK lockdown rules have had for working women with caring responsibilities, and the potential of flexible working practices to redefine the ways in which people work. This reflects both research undertaken on the impact that lockdown had on those with caring responsibilities and the unprecedented moves to home working that were necessitated by the pandemic. Research undertaken during the pandemic highlighted that the lockdown had a particularly disproportionate impact on working women with caring responsibilities. During the pandemic women were more likely than men to undertake unpaid childcare (Office for National Statistics (ONS), 2021, March 2020: 55% more than men; Sept 2020: 99% more than men); and to be home schooling (ONS, 2021 early 2021: 67% women and 52% men). Working mothers were also more likely than men to agree that they were struggling to balance paid work with care (Fawcett Society, August 2020: Figure 2, 5-6, 48.3% compared with 39.1% of fathers). While this is perhaps not unsurprising given that women already bear the greatest responsibility for care, the pandemic reinforced the challenges that those with caring responsibilities face when trying to combine paid work with caring commitments.

The pandemic also necessitated an almost overnight switch to home working for many. The requirement to work from home has highlighted the potential benefits of greater flexibility and has exposed many more employers and employees to flexible working arrangements. This shift has presented new challenges, not least of all access to technology and the boundaries between work and life, but also new opportunities to redefine how and where people work and what workplaces will look like in the future. However, it is important to bear in mind that the experiences of home working during the pandemic have varied and are different from those in normal circumstances. Indeed, the research referred to above highlights the challenges that women with caring responsibilities faced in combining work with care and schooling in circumstances were external supports for both were largely unavailable. The experiences of home and flexible working are therefore likely to be notably different from those where these supports are available. Nevertheless, there has been a shift in the attitudes of many employers and employees towards flexible working (Global et al, 2021). In order to assess the potential for the right to request flexible working (RTRFW) to redefine how people work, the current right and proposed changes will be examined. It will be argued that these changes can have an impact on not only those with caring responsibilities but also in other areas of emerging boundaries of work-life conflict, such as menopause, which has recently been the subject of a Women and Equalities Committee Inquiry (2021). However, other changes to

the package of work-family rights, particularly enhanced rights for working fathers, are necessary to challenge the focus on maternal care and achieve lasting cultural change.

2. The right to request flexible work

It has been argued that the pandemic has normalised flexible work. Indeed, Liz Truss, MP in her capacity as Minister for Women and Equalities noted that:

'We should take the opportunity to capitalise on some of those cultural changes that have happened to make it easier for people balancing family and career to work from home, to make it more flexible and to challenge the culture of presenteeism, which has been very alive in business …' (Women and Equalities Committee (22 April 2020): response to Q.14).

This would appear to suggest that flexible working is key to enabling working persons with caring responsibilities to engage in paid work. Greater opportunities for flexible working could certainly help redress some of the inequalities experienced by those with caring responsibilities during the pandemic. For instance, greater flexibility could enable more working persons with caring responsibilities to remain in work or to enter the workforce for the first time. However, it is important to remember that there are many jobs, particularly public facing roles, that cannot be undertaken from home, although other forms of flexibility would remain possible. It is first necessary to consider whether the tools to challenge workplace cultures, and to redefine how and where people work, are present within the current RTRFW.

2.1 The current right to request flexible working

The RTRFW enables employees with 26 weeks continuous employment to request a change in their hours, times or place of work (Flexible Working Regulations 2014/1398 (FWR) Reg.3 and s.80F Employment Rights Act 1996 (ERA)). The right was originally enacted in 2002 and was initially only available to working parents of children under the age of 6, later extending to children up to the age of 17 (s.80F(3) ERA before it was repealed and the Flexible Working (Eligibility, Complaints and Remedies) Regulations 2002/3236 as amended by the Flexible Working (Eligibility, Complaints and Remedies) (Amendment) Regulations 2009/595). It was subsequently extended to requests made in respect of adults in need of care (Flexible Working (Eligibility, Complaints and Remedies) (Amendment) Regulations 2006/3314), before being extended to all employees. Despite being available for almost 20 years, research by Working Families (2019: 2) prior to the pandemic shows that the right was underutilised in practice. While most working parents responded that they wanted to work flexibly (86%), just under half did (49%). The main reasons for not doing so related primarily to workplace culture and support: 40% of respondents noted that it was incompatible with their job; 37% reported that it was not available where they worked; and 10% stated that their manager does not like them working flexibly (2019: 2). It is evident that workplace cultures and societal norms have played a large role in how flexible working has been perceived and utilised in practice. This poses the question of whether the shift to home and flexible working during the pandemic has resulted in any cultural or societal changes, making it more likely for employees to successfully make requests. However, more recent research by the Global Institute of Women's Leadership et al reinforces similar barriers such as: business needs; unsupportive workplace cultures; and lack of knowledge amongst line managers (2021: 21-22), indicating that there may not have been as significant a change in attitudes as initially expected. This can perhaps be attributed to the framework of the RTRFW itself, which can make it difficult for employees to use.

It only applies to employees, meaning that those who do not meet the definition of employee in s.230 ERA are unable to make a request. In addition, they must have 26 weeks continuity of employment (FWR Reg.3 and s.80F ERA). This means that they must have an established connection with the workplace before a request can be made. These employment-related requirements exclude some working persons, particularly those in atypical work. Furthermore, they could act as a barrier to employment for those who require greater flexibility to enter the labour market in the first instance. This requirement highlights the challenges of implementing the recommendation requiring job advertisements to include references to flexibility (HM Government, 2019: 50). This is aimed at increasing the visibility and availability of flexible working when advertising jobs. The merits of this approach were reinforced in research undertaken by Londakova et al (2021) which demonstrated that the inclusion of references to flexibility when advertising jobs made the roles more attractive to both women and men. While this can help normalise flexible work, increase the availability of quality flexible work and facilitate the employment of those with caring responsibilities (Londakova et al, 2021: 7-8), if an individual does not have

a day-one RTRFW then this requirement will have little impact in practice. However, a day-one right to request has been included in the more recent Government consultation on Making Flexible Work the Default (MFWDC) (2021) discussed below.

Where an employee is entitled to make a request, the burden on them is quite onerous. They must make the request in writing, specifying whether they have made a previous request and if so when, and it must be dated (FWR Reg.4). They must ensure that they state that it is an application for flexible working, what the change is that they are requesting and when that change should take effect (s.80F(2)(a)-(b) ERA). They must then explain what impact, if any, granting the request will have for the employer and detail how they think that this impact can be dealt with (s.80F(2)(c) ERA). This last requirement places a heavy burden on the employee to consider the potential impacts of their request on their employer and could create a barrier for those who want to request flexible working.

Furthermore, employees can only make one request per 12-month period (s.80F(4) ERA) and any changes made result in a permanent change to the contract, unless a temporary change was sought in the first instance (Weldon-Johns, 2015: 407). This makes the RTRFW quite inflexible in practice and does not allow for the possibility that the employee's circumstances could change within that period, necessitating a subsequent request or amendments to the original request. Consequently, the RTRFW can be assessed as offering little of substance to employees because of its limitations in practice (Anderson, 2003). Once an employee has made a request, the employer is required to deal with the request in a reasonable manner, notifying the employee of the decision within 3 months and only refusing the application on one of the specified grounds (burden of additional costs; detrimental effect on ability to meet customer demand; inability to re-organise work among existing staff; inability to recruit additional staff; detrimental impact on quality; detrimental impact on performance; insufficiency of work during the periods the employee proposes to work; planned structural changes, and such other grounds as the Secretary of State may specify by regulations) (s.80G(1) ERA). These grounds are quite wide-ranging, consequently, employers have a large degree of discretion to refuse such requests. This again can make it difficult for employees to successfully make requests.

Employees can make a complaint to the Employment Tribunal but only on the grounds that: the employer failed to comply with s.80G(1); the decision was based on incorrect facts; or that the notification of the decision by the employer failed to meet the relevant requirements (s.80H(1) ERA). Consequently, the employee cannot challenge the reasons for refusal themselves, only the procedure. This makes it difficult for the employee to successfully challenge the employer's decision (Anderson, 2003; James 2006: 276-277; James 2009: 277-278). Even where a complaint is successful, the remedies are limited. If the Employment Tribunal upholds the complaint, they 'shall make a declaration to that effect and *may* (a) make an order for reconsideration of the application, and (b) make an award of compensation to be paid by the employer to the employee' (s.80I(1) ERA, emphasis added). The maximum compensation that can be awarded is 8 weeks' pay (FWR Reg.6). Consequently, even where an employee succeeds in their claim this does not require the employer to overturn their decision and grant the request. It does not even guarantee that the employer will be required to reconsider their decision. This offers employees few meaningful remedies.

Given the limitations of the RTRFW, its potential significance as a tool to help redress the inequalities faced by those with caring responsibilities during the pandemic can be questioned. This was initially reinforced by the limited recommendation to increase the visibility of flexible work in job advertisements, which fails to challenge the framework of the right itself. However, proposals to make it a day-one right offer more potential (Mitchell and Weldon-Johns, 2022). However, the MFWDC (2021) does offer greater potential to revise the framework of the RTRFW and make it more effective in practice.

2.2 Making flexible working the default consultation

The MFWDC reflects on the impact of the pandemic (2021: 8-9) and recognises some of the key concerns and limitations of the current RTRFW. However, it is also limited from the outset with its immediate dismissal of the possibility of changing the right from a right to request to a right to have flexible work (MFWDC, 2021: 10). The rationale behind this is ensuring that employers retain discretion to refuse requests (MFWDC, 2021: 10). This is reinforced in the consultation, which considers whether there should be any changes to the grounds of refusal (MFWDC, 2021: 16-18). No recommendations are made to revise these (MFWDC, 2021: 18), and it is clear that there will be no departure from the current levels of discretion afforded to employers. Given this approach, it is

difficult to see how the revised right can achieve, or capitalise on, cultural and societal shifts towards supporting more flexible working practices. Nevertheless, while it would be beneficial from the employee's perspective for the employer's discretion to be limited in some ways, it is perhaps not realistic in practice. Employers should have some discretion to be able to determine if the request can be implemented, recognising that for some roles certain forms of flexibility will be impossible. A more effective change here would be to introduce a right to challenge the reasons given by the employer. This would ensure that the employer makes reasoned decisions and fully and genuinely considers whether the request can be implemented. This approach can be supported by the proposal to consider whether the employer should be required to suggest alternatives if they are unable to grant the request sought (MFWDC, 2021: 19). The rationale behind this is to encourage a dialogue between the employer and employee to try to reach a consensus rather than requiring the employee to submit another request. This could help to normalise flexible work and encourage employers to become more open to accepting requests. This proposal could go some way to supporting a shift in workplace cultures towards flexible working. However, there is also the danger that employers utilise this to limit requests rather than to facilitate them in practice. A presumption in favour of granting the request could help to mitigate this.

The consultation also considers revising the administration process to allow for requests to be made more frequently and to require employers to provide their decisions more quickly (MFWDC, 2021: 21-22). Allowing more than one request per year would recognise that individual circumstances can change. Being able to request changes when this happens, irrespective of when a request was last made, would make the legislation more responsive and effective in practice. This would be a welcome change and would address some of the inflexibility within the existing framework. Reducing the timeframe in which decisions should be made would also be beneficial. Currently employers must respond within 3 months (s.80G(1B) ERA). Requiring employers to respond to requests more quickly would be useful as this will enable the changes to be implemented sooner. Alternatively, where they are refused, it will enable the dialogue between the employer and employee to begin.

The most notable proposal within the consultation is to remove the continuity of employment requirement and provide all employees with a day-one RTRFW (MFWDC, 2021: 15-16). This would enable all employees to request flexible working from the start of their employment, thus underscoring a commitment to greater choice and flexibility for all. This would address the concerns raised above that the RTRFW currently excludes those entering new employment and could help to embed a cultural shift towards greater acceptance of flexible working. This would complement the proposed requirements to include references to flexible working in job advertisements and make this more meaningful in practice. However, it does not address the issue of employment status which continues to limit the right to employees.

The consultation also notes that an employee can currently request temporary arrangements, although it acknowledges that it is not well-used (MFWDC, 2021: 22-23). One reason for this may be a lack of awareness that this is possible (Weldon-Johns, 2015: 407). Amending the legislation to make this clearer may encourage more employees to request such changes. It may also be reflect the difficulty in defining the parameters of a temporary request when it is made, since the date on which the change should be effective must be noted in the request itself (s.80F(2)(b) ERA). For instance, if someone requests a reduction in hours to temporarily care for an ill relative, the length of time that they require care is unlikely to be known. Allowing for greater flexibility in how and when requests can be made, as discussed above, could enable more employees to request temporary arrangements instead of making permanent changes. This could enable more working carers, particularly women, to remain in work and/or remain in or return to full-time work.

The MFWDC offers some opportunities to revise the existing framework and make flexible working more accessible and effective for employees, particularly those with caring responsibilities. However, some key barriers are likely to remain, and it is necessary to consider whether the changes are likely to support the kind of flexible working required to support those with caring responsibilities.

2.3 The potential and limitations of flexible work

The proposed areas of change contained within the MFWDC could help to ensure that the RTRFW is more effective in practice, despite its limitations. The greatest challenge is whether any legislative changes will be sufficient to support a cultural change towards flexible working, particularly of the kind that will support those with caring responsibilities. Some of the experiences of flexible working both prior to and during the pandemic highlight that this may be more difficult to achieve.

While more employers and employees have made use of flexible working during the pandemic, it is important to consider what the expectations around flexible working are and what kinds of flexible working have been valued. Quite often the kind of flexibility required by those with caring responsibilities is not valued because it often results in a reduction in paid work to undertake care (Chung and van der Lippe, 2020: 366 and 369-371). In contrast, greater flexibility in terms of working different (often longer and unpaid) hours or working in different places is viewed more positively in terms of career progression (Chung and van der Lippe, 2020: 366 and 369-371). These practices also tend to reinforce traditional gender roles, with women more likely to use the former forms of flexibility to balance paid work with care and men more likely to work flexibly to enhance their career prospects (Chung and van der Lippe, 2020: 366 and 369-371). While many employers and employees have adopted flexible working throughout the pandemic, these different approaches towards flexible work appeared to have been mirrored in the experiences of working parents. ONS (July 2020) data shows that during lockdown fathers spent an average of 45 minutes more per day on paid work than mothers. Coupled with the research noted above on the experiences of working mothers during the pandemic, this reinforces gendered experiences of flexible working. This also suggests that many employees did not necessarily reduce their working hours during the pandemic, but instead worked in a broadly similar way to the way they worked in workplaces, except from home. This reinforces a traditional male model of work rather than the flexibility required to balance work with caring responsibilities. If this is what employers have valued from the experiences of home and flexible working during the pandemic, then it could further reinforce and entrench traditional gender roles.

It is also important to consider whether flexible working, especially home working, can actually enable employees to address work-life conflicts. For instance, Chung and van der Lippe (2020: 368-369) note that studies demonstrate that flexible work, particularly home working, can create more work-family conflict because of competing commitments and blurring of boundaries between home life and paid work. Research by the Working@Home Project (2020) during the pandemic also uncovered the emergence of digital presenteeism, which could make home working more difficult for those with caring responsibilities. This research serves as a reminder that expectations around home and flexible work will have been influenced by the experiences of the pandemic, which have not necessarily departed from traditional male models of work. If this is the case, then the normalisation of flexible work may not meet the needs of working carers. Consequently, it is important to remember that the RTRFW, even with the proposed revisions, is not the panacea for all work-life conflicts and greater consideration also needs to be given to the broader package of work-family rights.

2.4 Flexible working and the future boundaries of work-life challenge

One final consideration is how the proposed changes can impact future boundaries of work-life challenge. The Women and Equalities Committee's inquiry into Menopause and the Workplace (2021) called for evidence on whether current legal frameworks sufficiently addressed the impact of menopause in the workplace. The RTRFW has the potential to support those experiencing the symptoms of menopause at work. For instance, if employees experience disturbed sleep because of hot flushes, being able to request a later starting time could enable them to be more productive. Allowing employees to work from home may support those experiencing heavy bleeding, which would make working in the workplace more difficult (Weldon-Johns, 2021). Changes such as a day-one right to request and greater flexibility in making requests would make it easier for those experiencing the symptoms of menopause to continue to work (Weldon-Johns, 2021). Consequently, when considering these proposed revisions it is important to consider the broader implications beyond the traditional focus on those with (child)care responsibilities.

3. Rights for working fathers

Another issue that has emerged during the pandemic is the role of working fathers. Greater flexibility for fathers as well as mothers has been recommended (Global Institute of Women's Leadership et al, 2001: 32), as has greater recognition of their caring role (Fawcett Society 2020: section 8; Margaria 2021). Working fathers have traditionally occupied a secondary role in childcare given the existing framework of work-family rights, which prioritises the role of working mothers often to the detriment of working fathers (Busby and Weldon-Johns; James 2006 and 2009). Working fathers are entitled to certain rights such as: 2 weeks paid paternity leave (Paternity and Adoption Leave Regulations 2002/2788 (PALR) and Statutory Paternity Pay and Statutory Adoption Pay (General) Regulations 2002/2822); up to 50 weeks of Shared Parental Leave (Shared Parental Leave Regulations 2014/3050 (SPLR) and Statutory Shared Parental Pay (General) Regulations 2014/3051); and 18 weeks unpaid parental leave (Maternity and Parental Leave etc Regulations 1999/3312 (MPLR)). However, all are subject to qualifying conditions, including continuity of employment requirements. This means that

working fathers have no automatic rights to childcare-related leave. In contrast, the right to maternity leave is a day-one right to leave (MPLR, Reg.4). While there are clear justifications for this, the distinction between this and the right to paternity leave, which requires that a working father has 26 weeks' continuity at the end of the week immediately preceding the 14th week before the expected date of childbirth (PALR, Reg.4(2)(a)), reinforces their secondary role. Given that the proposals to amend the RTRFW are revisiting the continuity of employment requirement, now would be an opportune time to also reconsider whether it is necessary for other work-family rights.

Furthermore, the Government previously committed to reviewing the right to shared parental leave (HM Government July 2019: 4-5) given the low utilisation rates (just over 1% of those entitled utilised it in 2017/18, Birkett and Forbes 2018), which would also be welcome. There should be a reconsideration of the dependant nature of the rights, which require the mother to curtail her rights to maternity leave and 'transfer' remaining entitlements to the father to use as shared parental leave (SPRL, Reg.4). Instead, an independent right to childcare leave for working fathers would be preferable (Busby and Weldon-Johns 2019; Atkinson 2017). As would making this a day-one right to leave. Changes such as these would reinforce that caring responsibilities are not optional or negotiable for those who have them. Facilitating this within the workplace will help recruit and retain those with caring responsibilities. It will also help to challenge traditional gender norms around care, which have been exacerbated by the pandemic.

4. Conclusion

The proposals to revise the RTRFW present an opportunity to make the right more effective and meaningful. In particular, the proposals to make it a day-one right and to make it easier to make additional requests could reduce some of the barriers faced by those who want greater flexibility but cannot access it. However, employers will retain a large degree of discretion and there are no proposals to enhance the ability to challenge decisions, which could limit their impact in practice. Consequently, the proposed revisions should be part of a wider revision of the framework of work-family rights which provides a more defined role for working fathers and considers new and emerging boundaries of work-life conflict. It is only by doing so that the proposals have the potential to effect meaningful and lasting change. Nevertheless, they mark a small step forward in renegotiating the boundaries between work-life conflict.

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Increasing Gender Sensitivity With Codesign

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Abstract: The Horizon Europe 2020 TInnGO (Transport Innovation Gender Observatory) project1 aimed to facilitate and empower the inclusion of underrepresented and diverse groups in smart mobility. Women are still considered to be an underrepresented group across the transport sector, forming less than 30% of all employees in the sector. Significantly women's travel needs are not met by current transport provision, despite widespread evidence that they make different types of journeys and have different mobility concerns. It may hypothesised that even less is known about other minority groups (such as those from the BAME (Black, Asian, Minority and Ethnic community and those with disabilities). The design of future transport services and products is further skewed by the predominance of male undergraduate transport designers and engineers. While there are many noteworthy attempts to attract young women into STEM (Science, Technology, Engineering and Mathematics) careers and provide support for them in the male dominated sector, the work conducted by TInnGO's Coventry team focussed on developing gender and diversity sensitive smart mobility solutions to highlight everyday mobility issues for women. These have been termed 'Design provocations,' 50 such designs were produced over 18 months in conjunction with 4 undergraduate design interns and are available for comment on our Open Innovation Platform2. From this experience, the team have produced a series of design tools to facilitate undergraduate student's empathy and awareness when designing gender and diversity sensitive smart mobility products.

Keywords: empathy, undergraduate designers, journey mapping, hexagon spindle model of ergonomics, sustainability, concept design, smart mobility

1. Introduction to H2020 TInnGO project

The H2020 Pan European TinnGO project[1] ran between 2019 and 2021, with the objective of increasing gender and diversity in the transport sector, especially in relation to smart mobility. With 20 partners working to support 10 national hubs, the TInnGO project has highlighted intersectional differences in the mobility patterns and experiences of transport users, employment and educational experiences. This has been achieved through, for example, mobility surveys, Gender and Diversity Action Plans to guide the development of more diverse workforces through gender mainstreaming, policy notes, guidelines, and recommendations to reduced barriers of entry into STEM (downloadable from our websites). The 10 national hubs (Baltic, French, German, Greek, Italian, Scandinavian, Portuguese, Romanian, Spanish and UK) were tasked with engaging transport stakeholders to effect changes within the transport sector, and to engage women and 'transport disadvantaged groups' in conversations about smart mobility and transport needs.

There is a sizable communication gap between transport providers, operators and the users of transport services (Tovey et al, 2016). The emphasis on moving people into and out of the city and servicing the ubiquitous car as a private mode of transport has fractured our cities, created pollution congestion and unattractive urban landscapes (Banister, 2015). It has also meant that some groups and communities live in transport poverty (Lucas, 2012). Current transport provision may not be affordable or accessible, reducing life opportunities. The recent emphasis on intersectionality (Crenshaw, 1989) has shown that many suffer multiple forms of transport poverty, which can lead to economic and social isolation (Uteng et al, 2020).

The transport sector is alert to this problem. However, consultation processes and surveys may not be as extensive or empowering as expected (Woodcock, 2018). On the one hand they may simply fail to capture the detailed insights into people's lives needed to provide high-quality service offerings and vehicles which meet the

[1] https://www.tinngo.eu/
[2] https://oip.transportgenderobservatory.eu/home

needs of a diverse population, and on the other, there may be a lack of wherewithal on how to use the information provided.

Pirra et al (2021) demonstrate that the needs of women are not met by current transport provision. Women may be subjected to greater forms of transport poverty because of their gender. This is notable, for example, in the different types of journeys women take) as they face dual burdens as workers, mothers, housekeeper and carer) in the modes of transport available to them, and their preferred most of transport (women use more sustainable modes of transport out of choice and necessity), their greater awareness of safety and security issues which leads to them having to use more expensive forms of transport to be safe (Faiz et al, 2020).

The focus of this paper is on design as the starting place for the creation of better services and vehicles – to enable smart mobility for all. User centred design approaches stress that design should proceed from an understanding of the needs and requirements of service users and a willingness and ability to act on this. Over 18 months we have worked with TInnGO interns to help them better understand and empathise with female transport users. The tools outlined in later sections are the ones we have developed to help bridge current gaps in understanding of the needs of female transport users, in particular.

2. The design process

Creating a paradigm shift in transport requires building up the capacity of future transport designers and engineers to enable them to create more gender and diversity sensitive smart mobility products. To understand the barriers to this, design and engineering students worked on concept designs (or provocations) using internally generated ideas submitted from the 10 TInnGO hubs relating to current, context specific, mobility related challenges (Magee et al, 2021). Student involvement was voluntary. With all design activities conducted during lockdown, we were not able to conduct the planned Europe wide codesign activities with vulnerable transport users. Members of the largely female, UK, TInnGO team served as proxies or expert witnesses, recounting own experiences.

At the outset of the design phase, we did not prescribe which student should work on which brief or how they should address it[3]. Tutorials and group discussions directed their activity with critical reviews on a weekly basis, for 2 -3 hours, with 4-6 partners. In these, we discussed ideas and teased out what these meant in relation to the ambitions of TInnGO. To achieve our target number of design provocations, design sprints took 2-3 weeks from briefing to a suitable item that could be posted on the Open Innovation Platform - maintaining momentum. Our designers tackled a number of novel smart mobility issues related to women's everyday mobility problems found in multimodal end-to-end journeys (from planning to arrival at destination) such as breastfeeding, carrying shopping, safety and security at bus stops, exercise, traveling with dependents, community-minded bus stops, planning and complaining about services.

In our earlier paper (Magee et al, 2020) we have discussed the affordances of the Open Innovation Platform as a vehicle to dissemination of ideas, and the use of Design Provocations as a conversation stimulator, not requiring a fully developed design – but as the visual embodiment of an idea that can lead to in depth communication. Importantly, creating the design provocations, requires the designers to present and defend an idea. The ensuing discussion leads to reframing the problem, exposes gaps in knowledge, lack of empathy etc and requires designers to think of ways to reinforce claims or resolve issues. What is different in this approach is the use of design and design thinking 'upfront' to generate and understand mobility requirements

Working with the students, all of whom were young and two of whom were female, it was clear that not being co-located was a key issue in co-design. When working in isolation, our student designers were not able to work alongside users, gain insight or develop empathy for the end users. Also, wider stakeholders (such as hub members we were designing for, the project team and transport operators etc) could not easily contribute to or learn from discussions. As such we could not investigate how women's storytelling, as a citizen science method (Richter et al, 2019) could be used to increase empathy and understanding across the project.

[3] Examples of design briefs and provocations can be found here https://oip.transportgenderobservatory.eu/home

3. Critical analysis of the extent to which students were able empathise with female transport users

As our young interns were designing smart mobility products for people unlike themselves, key skills were their ability to understand another's experience, empathise and translate that into a useful and usable product conveyed in a visual manner to inspire comment and reflection. Based on our experiences with the students we have evolved a series of methods which can be used to increase empathy and understanding of intersectional factors when designing smart mobility products and services. The purpose of engaging with citizens is to learn from their experience; to 'walk in their shoes'; to empathise with them and their situation. If, as enquirers, we fail to probe deeply enough due to communication limitations, then our understanding is shallow, designs do not meet user needs and opportunities are lost. From a mobility perspective this means that smart mobility innovations (both products and services) may 'exclude' certain groups – as a consequence the paradigm shift of the next generation of transport stumbles.

The phrase 'gender and diversity sensitive smart mobility' is difficult for those new to the area, and indeed the terms are evolving as the industry and technology matures. For example, 'smart' may be technology enabled, refer to vision zero, or may be entirely flipped to mean a system which reduces the need for travel and societal inequalities. The relationship between 'smart' and 'sustainable' is also poorly defined. Designing into this space requires an appreciation of its wickedness (Rittel and Webber, 1973) requiring multi-agency and multidisciplinary actions. Even seemingly stand alone, gender and diversity sensitive smart mobility innovations, such as child bicycle seats are complex - they need to be informed by experiences and lifestyles unfamiliar to many young designers, but their usage takes part in a wider context (e.g., bicycling culture and infrastructure. Many of the designs, when discussed in detail, were service or systems oriented, relying on or requiring integration with other agents/devices/systems before they could be implemented. Which leads us to question whether asking transport designers to design for an existing flawed system, is not only skewed but also reinforcing the problem.

For the designers, the contexts and users were unfamiliar; an experience which is not unusual. Open discussion about ideas and sketches is also familiar; design teams regularly present ideas or to simply leave on show for the wider team to absorb, adapt and learn from. Because we were working remotely, it was more effective to encourage a low-level digital presentation (and indeed a good learning experience for the interns) where we would hear their narrative and provide feedback or questions. Challenges to ideas were based on the lived experience of TInnGO team members who adopted the role of expert informants. In this sense the UK hub team provided knowledge, through which we could validate or challenge a proposed idea. Being reflective; we are all experts in our own experience – yet our own knowledge is not definitive. Had we been able to travel and meet face-to-face then the pool of knowledge may have been greater but given the circumstance, we used the knowledge that was available.

Viewed through the COVID impacted lens of TInnGO, did the interns find ways to address the experience of female transport users? The UK hub and several of our partners shared experience, that informed insight-led ideas that would not have been communicated so easily without the design provocations. Through this mechanism students were able to develop and communicate more empathic insights into the mobility needs of women and diverse transport users.

Intersectional issues exist at the heart of gender transport poverty. It is therefore worthwhile to use design research methods such as co and participatory design, at the start of any transport innovation to ensure that the design team and wider stakeholders have a sound understanding of the users and usage context and wider barriers which may affect uptake of their schemes; and indeed, that the communication of such is uninhibited.

4. Overview of TInnGO methods to support the development of gender and diversity sensitive smart mobility

From the preceding discussion we have recognised that undergraduate designers and engineers working in this area need additional guidance in understanding basic underlying concepts of intersectionality; key factors which should shape their design thinking and understand how their designs will be evaluated in this sector in terms of Effectiveness, Affordability, Accessibility, Sustainability and Inclusivity (the EAASI criteria which strike at the heart of inclusive and sustainable design, above and beyond basic ergonomics); methods to help they

understand and breakdown barriers to mobility and ways in which they can use empathy in understanding the user journey – the needs and requirements of different travellers from a service perspective. The following sections provide a brief overview of the TInnGO design tools, using examples of women's every day journey experiences. The tools have been generated out of a need for a more sophisticated understanding of the context in which designs might be used in the real world, and how

4.1 Supporting understanding of intersectionality

Intersectionality can be a difficult concept to understand and explain to others. In terms of transport, peoples' mobility patterns depend upon many factors, where they live, what they earn, their caring responsibilities, as well as characteristics such as race, gender, sexuality, and age (Levin et al, 2020). Using intersectional analysis can show how these factors can overlap and influence access to transport mobility. Unequal access to transport, for whatever reason is a major contributory factor in social and economic exclusion. The role of designers here is to make sure that they are not creating products and vehicles which exclude certain groups by failing to understand different needs and requirements, e.g., not designing spaces/ramps for wheelchair users and prams, overreliance on technology when latest devised may be incomprehensible, unaffordable or unusable by large numbers of the population. The digital divide is a good example of the need to take apply intersectional thinking to transport and smart city initiatives (van Rynevald, 2021). Students are digital natives, their friends are all digital natives, as such they believe technology will solve all problems and struggle to understand or have empathy towards laggards (Woodcock, 2014).

To assist with this, the team developed a model, based on a wheel of 3 concentric discs, the TInnGO Intersectionality Mobility Indicators (TIMI) (Figure 1 and downloadable from TInnGO web site). This can be used to enable transport policy makers and practitioners to visualise the overlapping (intersectional) nature of individual characteristics and structural aspects of transport poverty, and how they relate to smart mobility and mobility patterns. The origins of the tool came from the principle that transport is the glue that holds many facets of everyday life together. Where you live, work, go to school, shop or socialise is influenced by transport. We have symbolised this as the strands of a fibre optic cable all wound together.

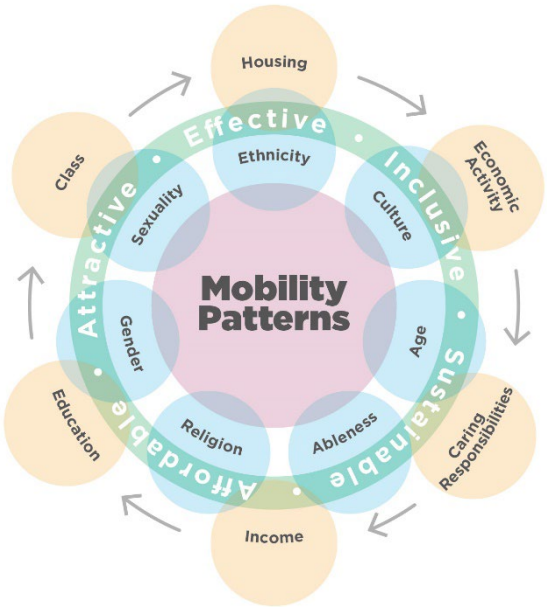

Figure 1: TInnGO Intersectional Mobility Indicators (TIMI) (Bridgman et al, 2021)

The TIMI model draws attention to the overlapping nature of smart mobility. The outer, orange ring contains structural and political factors of transport poverty and social exclusion such as housing and economic activity and the blue circles highlight intersectional characteristics on a more individual level which are traditionally associated with excluded groups (such as gender, ableness, ethnicity). Every person has a profile formed by these and other characteristics. These in turn interact with the structural factors. A person is not defined just by their gender, but other factors as well. Some of these will create multiple levels of deprivation and exclusion. Lastly the cyan circle represents the 5 gender smart dimensions (effective, attractive affordable, sustainable and

inclusive) which need to be considered in the design of gender and diversity sensitive smart mobility products (Breengard et al, 2021). These form the basis of the EAASI tool discussed below. This downloadable tool is designed to prompt discussion but equally could also be used to measure impact. It highlights how all systems need to be read together to foster equity-based policy solutions and the wider context in which smart mobility is placed.

4.2 Operationalising the TInnGO TIMIs to guide the design and evaluation of gender and diversity sensitive smart mobility products

Whilst Figure 1 can be used to stimulate thinking on intersectionality and how intersectional factors may influence, or be influenced by transport provision, the TInnGO team have applied the Effective, Attractive, Affordable, Sustainable, and Inclusive criteria into an 'EAASI' checklist tool to guide the development and the evaluation of smart mobility concepts/products. The tool is to make gender- and diversity-smart thinking an *explicit* and prominent part of the development of 'smart mobility' solutions. This differentiates it from more generic 'usability' methods and assessment tools. The tool was developed as a way of helping the design students understand and apply social and environment factors (such as United nations Development Goals) from receipt of the design brief – rather than trying to justify their choices when presenting the final design.

The tool is in 3 parts:

- Part A: product description in words and images, with links to course documents, with prompts concerning the product goal, design purpose and USP, how the brief was generate, who it was designed for, task context and user needs.
- Part B: set of prompts for considering each of the 5 criteria in relation to specific travellers or characteristics.
- Part C: Qualitative overall evaluation and summary of each section,

In a design context, the tool can be used to develop a brief or develop empathy for diverse user groups; and can also be used to evaluate a product for procurement to check how 'diversity or gender smart' it is; or by independent evaluators perhaps comparing marketplace products for review. Using the tool can help designers to:

- Evaluate a product or design for each criterion according to explicit design goals
- Evaluate a product or design against EAASI goals, Effective, Attractive, Affordable, Sustainable, and Inclusive.
- Take account of intersectional diversity and inclusivity: consider diverse group needs and identify who may be excluded from using the product and why
- Compare evaluations through a 5-point rating system

Part C: Overall Assessment

This is intended to summarize how the product fits with its own defined goals and how far it meets 'Gender and diversity smart' criteria. The Evaluator should complete a rating based on the ratings per each indicator already completed.

Does the design meet its own goals?	**Percent**	**Smiley**	**Notes**
e.g. The e-scooter meets the design brief needs of appealing to young people and active, reasonably fit commuters who may choose to integrate use of an e-scooter into their daily commute from a train or bus hub.	*80%*	🙂	
e.g. the e-scooter could be an alternative to bringing a car into the city	*70%*	🙂	
Does the design meet the Gender & Diversity Smart goals - EAASI?			
1 - Effective Is the product effective?	43%	☹	*Effective for those who can use it – speedy and anywhere within city*
2 - Attractive Is the product attractive to a wide range of users?	34%	☹	*Attractive to certain groups of users, mainly younger persons, possibly more males, but not others*
3 - Affordable Is the product affordable to a wide range of users?	52%	😐	*This is a Shared transport solution so affordable depending on charges for users and break even point for providers*
4 - Sustainable Is the product sustainable / does it encourage sustainable behaviour?	55%	😐	*Good sustainability, as alternative to car travel, easy maintenance, OK so long as they are not stolen*
5 - Inclusive Is the product inclusive from the point of view of gender and diversity? From the point of view of Accessibility?	6%	☹	***Not very inclusive**, does not support chained trips, useful only for those with fitness and confidence, appropriate clothing, minimal luggage, reported to have negative effects and even dangerous to some disabled and elder pedestrians. Not inclusive for people with disabilities.*

Key

Excellent (70 to100%)	Good (60-69%)	Satisfactory (50-59%)	Poor (40-49%)	Fails this indicator (0-39%)
🙂	🙂	😐	☹	☹

Figure 2: EAASI checklist summary page

The EAASI checklist has been iteratively developed by the project team and applied to the evaluation of number of designs on the Open Innovation Platform. Worked examples relating to the nurturepod and 'fido' shopping companion and blank templates are available from the TInnGO web site.

4.3 A systematic approach to understanding and plotting barriers to women's mobility

Woodcock has applied the hexagonal spindle of ergonomics to transport design (e.g., Tovey et al, 2015; Woodcock et al, 2021). Taking a user centred approach, a user is placed in the centre of a hexagon (See Figure 3 which uses a breastfeeding mum as an example) and the multiple levels of factors which may inhibit their mobility are systematically broken down and divided between organisational (infrastructure and management), personal (social and individual) and contextual (task and design) issues. These barriers can occur at an interface/workstation level) e.g., the design of a touch screen or seat), through to organisational (lack of workforce diversity, poor customer sales support) and macro/ external level factors, such as corruption, lack of gender equity.

Data to populate model may come from a variety of sources such as surveys, literature review, ethnography, interviews. As a pragmatic tool, categories within the H-S model can be used to thematically group barriers to mobility into categories from which solutions can be developed, targeted against the right sector and stakeholder. The data in Figure 3 was derived from an analysis of discussion forum threads and interviews with migrant women (Gut et al, 2021). This has led directly to 2 design provocations for breastfeeding space on TInnGO's OIP and created lively discussions about societal attitudes towards mothers with small children. Of key interest for designers here is the wider view provided by the H-S model. The design sector forms only 1/6th of the model, and a lot of the barriers to women's mobility are not related to vehicle design but wider transport infrastructure, service provision and attitudes of staff and passengers. Here design thinking and representations can contribute to the bigger picture.

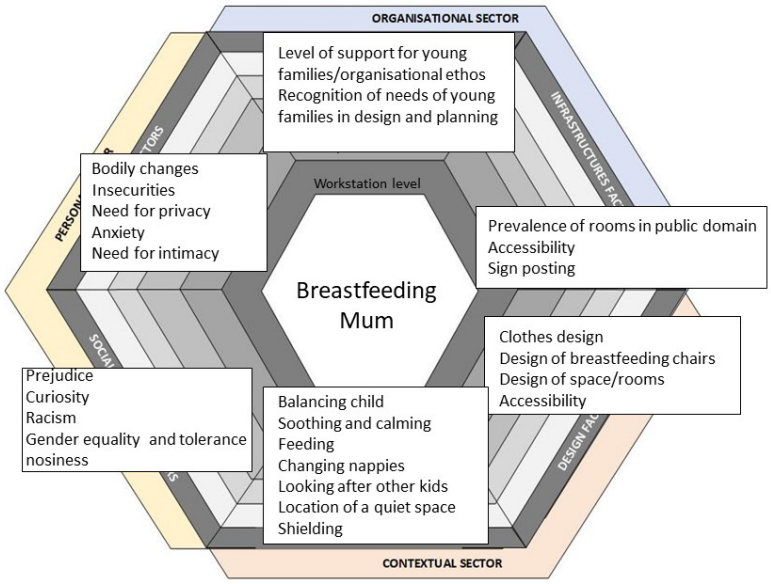

Figure 3: Hexagon spindle model showing some of the barriers to mobility for breastfeeding mum

4.4 Understanding the journey experience

The journey map template (Figure 4) has been created to help designers empathise with different users, to increase their understanding of what barriers individuals from disadvantaged or vulnerable groups (such as individuals with existing medical conditions, limited mobility, women travelling alone) may face on a day-to-day basis when using public transport. This template is a tool to help designers to break down a user's journey into individual steps and analyse what stress points may occur for the user at these different steps, and what the solutions may be to the stress points, and who can offer these solutions. The solutions may be service based (educating staff, increasing the frequency of public transportation offered), design based (smartphone apps to

improve user experience of public transport, design of products or improve existing designs at interaction points, vehicle design), family / carer based (help individual to plan journey, find maps, book tickets in advance), and individual based (travel at quiet times of the day, take relaxing music with them to listen to if feeling stressed on the journey).

Designers can add images to the journey map, such as their own design concepts, or images of existing transport that illustrate the stress points This journey map template tool can be used to create journey maps of singular or multiple modes of transportation, being in a spreadsheet format, the tool invites designers to empathise with the user, keep adding steps to the journey and exploring a variety of solutions to the stress points that occur, facilitating an in-depth analysis of a user's experience of public transport and how it can be improved in the future. What we are trying to do with this tool is bridge the gap between hierarchical task analyses and experiential design.

Journey map examples we have explored within TInnGO, from a gender and diversity sensitive smart mobility perspective have included individuals with neurodiverse conditions travelling to an event, and what their journey may look like accompanied or unaccompanied by family / carers, or another example may be an elderly couple, one that uses an electric wheel chair, and one that walks, and what their experience of public transport may be when travelling to the shops (journey map template and examples can be found on the TInnGO transport gender observatory website, under TInnGO tools: https://transportgenderobservatory.eu/journey-map/).

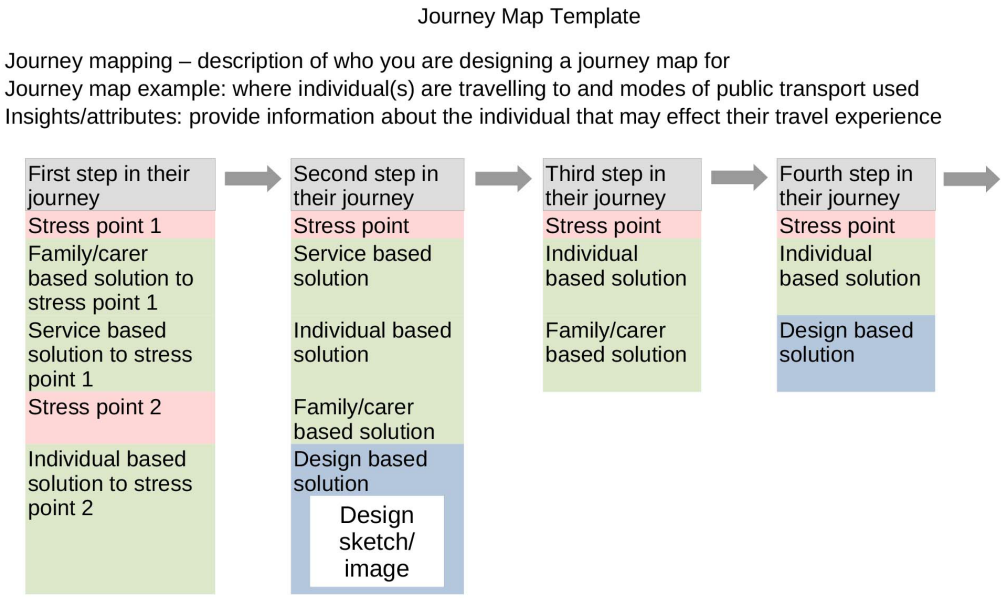

Figure 4: Journey map template

4.5 Conclusions

Given the constraints of working in 2020/21, the modest experience of our interns and our inability to engage in codesign activities with women and those from vulnerable groups, we have explored the way in which design activities can be used to share conversations about mobility problems. In bonding with designees through relating our stories we have tried to develop their empathy and wider appreciation of the complexities of designing smart mobility which is gender and diversity sensitive. Exit interviews with hem revealed that they had been stretched by working with us, developed new skills and a wider understanding of transport design, which made them less wiling to design just another concept vehicle.

From an ergonomics perspective designing for the weakest, most vulnerable groups is known to increase the usability and satisfaction of products for the wider population. Women are not weak, current transport design forces them into positions where they are vulnerable and comprised. This is true for other excluded groups.

Out of this work and our experience as design educators we have produced a set of easy-to-use tools for design students to encourage them to think more widely, to see transport as more than just another vehicle, and to grapple with emergent concepts of intersectionality, smartness and sustainability.

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Stereotyping and Gender gap During COVID-19: Backlash or Gender Convergence? A Systematic Literature Review

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Abstract: What have been the short- and medium-term net effects of the pandemic on working mothers, both in the early stages and over the course of the pandemic? The goal of this paper, positioned within the research field of stereotyping and gender discrimination, is to provide an updated view of academic studies investigating the dichotomy "backlash vs gender convergence" in the wake of the COVID-19 pandemic shock. The paper has been structured as a systematic literature review based on the PRISMA Statement approach. We found a complex but, to a certain extent, predictable picture, with COVID-19 unable to produce strong and consistent macrodynamic changes on gender gap. Ultimately, therefore, the existing research seems to conclude that there is no support for either the backlash or the gender convergence notions; rather, there seems to be an equilibrium characterised by stability in gender roles, especially medium-to-long term. Other major findings include i) There seems to have been a general increase in equal childcare responsibilities even though, on average, mothers still carry the heavier load; ii) Mothers in dual-career couples were more exposed to work-hour reductions or losing their job completely; iii) Temporary gender convergence shifts were largely motivated by female working arrangements and/or necessity; iv) A new gap in psychological distress emerged for working mothers compared to both men and childless women.

Keywords: stereotyping, gender gap, COVID-19, systematic literature review, PRISMA

1. Introduction

On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic, resulting in intensive containment measures to prevent the spread of the disease. This led to the closure of most workplaces, schools, and day-care facilities, putting entire industries at risk. Many working parents have since been affected, for example through reductions in work hours, furloughs or work-from-home arrangements (Reichelt *et al.*, 2021). The closure of schools and day care, in particular, has been identified as a potential cause for a widening of the gender gap, as women are often responsible for most of the unpaid work at home (Zamarro and Prados, 2021).

Early works on the topic found women and more specifically, working mothers, to be more vulnerable to the effects of the pandemic (Alon *et al.*, 2020; Heggeness, 2020; Gatto, 2020; Sevilla and Smith, 2020). Multiple reasons have been named for this: i) Closures of support facilities led to an increase in household work and, subsequently, in the burden for women regarding family chores and childcare; ii) The service industry and related sectors are typically predominantly female; therefore, statistically, the economic downturn hit women harder than men; iii) Working mothers, who are often devoted to family work, tend to be employed in low-wage jobs and/or flexible arrangements (e.g. part-time, teleworking, etc.).

Since the distribution of paid and unpaid work within the family boundaries as well as the stereotyping and discrimination of women in the work environment had already been identified as two important antecedents for gender inequality even pre-COVID-19, we asked ourselves whether this divide could have been affected or disrupted as a consequence of the pandemic-related shock to the labour market (King *et al.*, 2020).

The goal of this paper, positioned within the research field of gender gap, and more specifically stereotyping and discrimination, is to discuss the net effect of the pandemic on female labour supply in the short and medium term. By doing so, the authors aim to provide an updated view of the impact of the COVID-19 pandemic on the gender gap and, tentatively, derive the possible impact on gender convergence.

The paper, structured as a systematic literature review based on the PRISMA Statement approach (Moher *et al.*, 2009), has been analysed using a qualitative content analysis method (Mayring, 2015). In this regard, the references returned from the database were sorted according to a set of codes, from which originated a number of main and sub-categories.

This paper is structured as follows: In Section 2, we present the theoretical framework of the gender gap, focussing, in particular, on stereotyping and discrimination in the disruptive socio-economic context presented by COVID-19; in Section 3, we outline the methodology; in Section 4, we present the findings of our systematic literature review, discussing the arguments for the "backlash" and "convergence" hypotheses regarding the gender care gap during COVID-19 as well as the expected long-term effects of the pandemic on the same variable.

2. Theoretical background

The so-called "gender care gap", defined as the gap between men and women in the contribution to domestic unpaid work, explains further phenomena such as gender inequality in the labour market and, more specifically, the motherhood penalty (Bertrand *et al.*, 2010). Indeed, despite gender convergence in education, in most developed countries women are still responsible for the majority of unpaid work at home (OECD, 2020). In the same vein, the United Nations (2020), confirmed that although the number of women working outside the home is higher than ever, gender expectations still play a major role, with a slow gender convergence in paid and unpaid work, even during recessions (Czymara *et al.*, 2021).

In their meta-analysis focussed on working mothers, Cukrowska-Torzewska and Matysiak (2020) confirmed that the main drivers responsible for the motherhood gap are the loss of job experience (Gangl and Ziefle, 2009), the decrease in productivity at work (Anderson *et al.*, 2002), accepting mother-friendly jobs (Felfe, 2012), and being discriminated against by employers (Budig and England, 2001; Correll *et al.*, 2007). The last antecedent, in form of both direct and indirect discrimination, is strictly connected to the concept of stereotyping, with high levels of stress and potential burnout for working mothers (Clark *et al.*, 2021). Flexible work arrangements have been found to be beneficial when it comes to women attaining a better work-life balance, yet remote work options still reflect biases and gender stereotyping, as they are generally perceived to be connected to a decrease in productivity (PWC, 2018). The stereotype of the ideal worker still seems to be rooted in being physically present at the office, meeting high-set targets by working long hours, and interacting with colleagues (Barhate and Hirudayaraj, 2021). Organisational policies and norms tend to promote the separation of work and family, thus reinforcing the traditional "male breadwinner model" with the man usually taking on the paid work and the woman shouldering the bulk of unpaid work at home, including childcare (Fisher and Ryan, 2021). Even when the work environment seems to be in tune with a working mother's needs, family dynamics can potentially hinder career choices and relegate women to the family domain (Gatto, 2020).

The COVID-19 pandemic has arguably acted as a profound disruptor in the labour market, since it has presented both employers and employees with unprecedented organisational and economic challenges. Academic debate has formulated two opposing expectations regarding the impact of COVID-19 on the aforementioned gender gap, namely the "backlash notion" and the "convergence notion" (Boll *et al.*, 2021). The latter view assumes that, after a certain period of adjustment, where fathers start appreciating unpaid work at home, gender role attributions will return to the male-breadwinner norm, leaving women in charge of the "sudden spike in childcare needs" (Alon *et al.*, 2020). The convergence notion, on the other hand, presumes that fathers will come to spend more time with their children, permanently increase their share of family care duties, and in doing so, reduce the gender divide with mothers (Kreyenfeld and Zinn, 2021). The question of which of these two expectations has prevailed over the course of the pandemic and what are, tentatively, the academic projections regarding any post-COVID effects will be the focus of Section 4.

3. Methodology

In order to present a structured and coherent picture of the effects of COVID-19 on stereotyping for working mothers, we adopted a systematic literature review (SLR) approach based on the PRISMA Statement (Moher *et al.*, 2009). This methodology includes three main steps, namely *identification*, *screening* and *eligibility*; a fourth step, "inclusion", is mandatory for meta-analyses only.

The first step, "identification", entails finding a set of keywords consistent with the research aim. After preliminary research on the *status quo* of the topic and a consultation with research domain experts, we decided to adopt the following query string:

(stereotyp OR gender roles OR working mothers) AND (pandemic OR covid-19 OR corona*)*

We then implemented all nine possible permutations in the database of our choice, Business Source Premier (via EBSCOhost), obtaining 382 results.

In order to ensure the relevance of the references retrieved, we applied two main filters embedded in EBSCOhost:

- *Scholarly (Peer Reviewed) Journals*: By including only those papers which passed the rigorous peer review process, we aimed to increase the reliability of the references returned
- *Time-window*: Ideally, the newness of the topic would be enough to control for publications older than 2020, but to further increase the consistency of results, we excluded references older than 2020.

As a result of the aforementioned filters, the total number of results was reduced to 172.

Within the second step, "screening", we assessed the substantive relevance of the references retrieved by reading all abstracts for substantive context, leading to a total of 24 results. We then integrated the obtained results by conducting further research on Google Scholar, snowballing (i.e. citation searching) the most relevant papers we retrieved. This produced an additional 17 references.

Finally, in the "identification" step we started by eliminating all duplicates. In addition, we read through the most relevant sections of each paper and finally confirmed their eligibility for inclusion in our systematic literature review. At the end of the process, a total of 27 papers remained for consideration and review, and were included in the software Citavi 6.0, which in this instance was used both as a reference management software and as a coding software for the themes identified. The following Figure 1 exemplifies the PRISMA statement approach we adopted in this work.

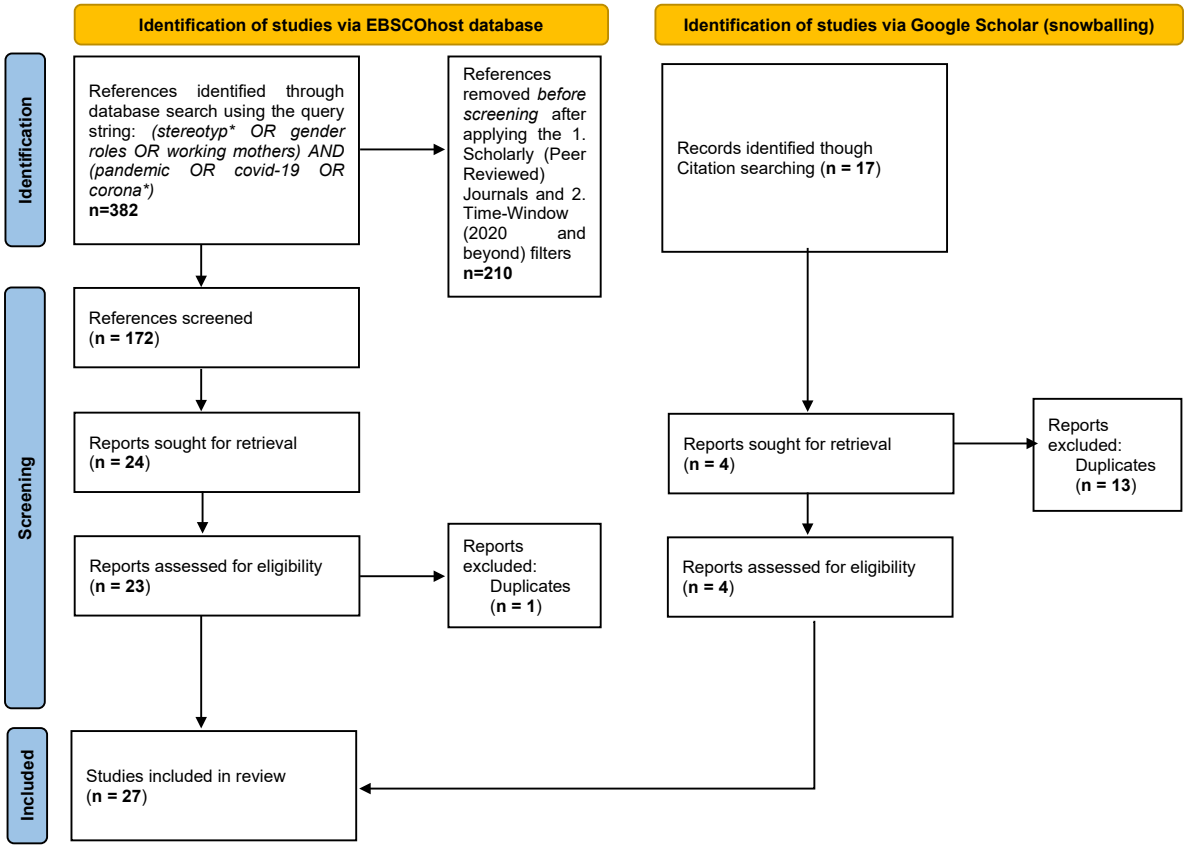

Figure 1: Mapping citations result with PRISMA information flow

4. Findings

4.1 The early stage of the pandemic

An early study by the World Bank predicted that men and women would be affected differently by the pandemic, and that intra-household allocation of resources would play a major role in achieving a higher degree of gender equality in the long run or rather in further confirming and reinforcing stereotyping and gender discrimination (Paz *et al.*, 2020). The relevance of the impact of COVID-19 on gender roles has also been confirmed in seminal academic research (Alon *et al.*, 2020). Initial investigations in the early stages of the pandemic across different countries and industries, however, resulted in a confirmation of the gender gap: i) Women took on more childcare responsibilities than men even when both were working from home (Adams-Prassl *et al.*, 2020), ii) Mothers in dual-career couples were more likely to quit working or to reduce their work hours than men, with the gender gap in work hours growing by 20–50 per cent (Collins *et al.*, 2020), iii) Men increased their participation in housework and childcare slightly, but most of the burden still fell on women (Farré *et al.*, 2020). Rosenfeld and Tomiyama (2021), in the early stages of the pandemic, found confirmation of the traditional gender roles and stereotypes. In the same vein, Czymara *et al.* (2021) found confirmation of gendered patterns relating to perceptions in the early stages of the pandemic, with women worried more about childcare and men more about paid work, even within well-educated couples. In Italy, Del Boca *et al.* (2020) showed that the amount of childcare/housework men would shoulder depended largely upon their partner's working arrangements (Del Boca *et al.*, 2020). Indeed, in cases where the mother works on-site only (and the father stays at home at least one workday a week), gender differences have been found to be less pronounced since fathers are more likely to increase their share accordingly (Alon *et al.*, 2020; Arntz *et al.*, 2020). However, Sevilla and Smith (2020) found an asymmetric response in cases where both partners work from home: women are then still in charge of 65.5 per cent of the additional childcare. Nevertheless, the disruption of daily routines with forced remote work and increased childcare time could potentially lead to overcoming, or at least mitigate, the classic dichotomy in gender role attribution. For this to be possible, however, both the family domain (Fisher and Ryan, 2021) and the work domain (Barhate and Hirudayaraj, 2021) would have to internalise changes in culture, norms and attitudes that would allow for a higher degree of equality. In the following paragraph, we review the academic works which have investigated these dimensions over the course of the pandemic.

4.2 During the pandemic

Hennecke and Pape (2021) used German survey data to investigate the short- and long-term effects of an exogenous shock, namely paternal job loss. They found a positive impact on time allocated to childcare and housework on weekdays (respectively, +1.2h=+58%, and +1.7h=+79% relative to baseline). However, these short-term effects were offset after the re-employment of the father, especially when his partner was not working. In fact, in this specific circumstance, the net medium- to long-term effect is a *lower* involvement of the father, even compared to pre-job loss periods. Ultimately, time availability and financial constraints inhibit persistent change in gender role attitudes. Another study investigated the backlash-vs-convergence dichotomy by analysing three waves of survey data from a non-probability sample from Germany (Hipp and Bünning, 2021). The results suggested that while the division of childcare was more equal in the early stages, during and after the lockdown gender stereotyping within the household still persisted, with women reporting lower levels of satisfaction with their work, family and life in general. The net result seems to lean toward an increase in gender inequalities within the time-period investigated, albeit with considerable temporal dynamics. Hank and Steinbach (2021) based their analysis on pre-release data from the German Family Panel (pairfam; Wave 12) and its supplementary COVID-related online survey (n=3,108). They found no consistent changes in intra-couple division of labour. Some directionalities at the extremes of the distribution were reported (i.e. more couples conforming to "traditional" gender role attribution accompanied by more couples showing "role reversal"), but, on average, the "COVID shock" confirmed a stable framework rather than fostering gender convergence. Again in Germany, Jessen *et al.* (2021) found that working mothers have been left completely or almost completely alone with the care work. Naujoks *et al.* (2021) found that men receiving short-time work benefits triggered more gender-equal behaviours, albeit moderated by their level of education. An interesting cross-national study by Reichelt *et al.* (2021) investigated gender-role attitudes during the pandemic in the US, Germany, and Singapore. After controlling for the higher share of flexible work arrangements for working mothers (i.e. part-time), the employment risk remained, on average, unchanged compared to the baseline pre-COVID. Women in Germany and Singapore, however, are more likely to transition to unemployment as a consequence of the COVID-19 shock to the labour market. Yamamura and Tsustsui (2021) further analysed the impact of school

closures on gender role attribution in Japan, where workers could freely choose their work arrangement even during the pandemic. The main findings were that in households with children aged under 12, fathers were less likely to work from home while the opposite was true for mothers. This implies that the pandemic has increased the gender childcare gap, since mothers have to shoulder both the higher childcare- and their remote work duties. However, grandparents were found to play a mediating role in arrangements where both parents worked. Fukai *et al.* (2021) reached similar results for Japan, estimating that the employment rate of working mothers decreased by 4 percentage points during the period April-December 2020. A further contribution from Zamarro and Prados (2021) for the US confirmed that women, even when still working, had a greater degree of responsibility for childcare during the COVID-19 crisis. This result was consistent even when controlling for their specific working situations; and a reduction in working hours and a higher probability of opting out were reported. As a consequence of higher stress levels, a small but new gap in psychological distress emerged between working and non-working women. Finally, Boll *et al.* (2021), after studying 1,120 parents, found only a small and temporary increase in father participation, which was mostly due to the impossibility of the mother working from home. This seems to suggest that the changes are motivated more by necessity rather than providing a real opportunity for gender convergence, with those variations levelling out once the necessity (i.e. pandemic shock) no longer applies. In addition, the authors found that maternal telework produces a counterintuitive outcome, with mothers taking on even more responsibility for childcare. Ultimately, this paper has not found strong support of either the backlash or the convergence theory, as it appears that gender role dynamics revert to their former state in the medium to long term.

5. Conclusions and future research

Overall, the pattern of results revealed a somewhat predictable picture regarding the impact of the COVID-19 pandemic on gender role attribution and stereotyping. By reviewing the most up-to-date literature on this topic, we ultimately found that the effects of the pandemic on both the labour market and familial arrangements did not produce strong and consistent macrodynamic changes as far as gender care gap is concerned. First, both during the early stages and the development of the pandemic, studies concur that, relatively and on average, the generalised increase in childcare was shouldered by the mothers rather than the fathers (Collins *et al.*, 2020; Farré *et al.*, 2020; Akuoko *et al.*, 2021; Yamamura and Tsustsui, 2021; Zamarro and Prados, 2021). Second, mothers in dual-career couples, a familial arrangement more and more common in developed countries, were faced with a higher work-hour gap compared to both men and childless women, as they reduced their work hours or quit working completely. Third, especially for the early stages of the pandemic, traditional gender role attribution has been confirmed, across countries and with different samples/methodologies (Czymara *et al.*, 2021; Rosenfeld and Tomiyama, 2021; Hipp and Bünning, 2021). Fourth, any temporary shift and deviation from the traditional male-breadwinner model is usually caused by either the working arrangements of the female partner (Del Boca *et al.*, 2020), temporary paternal unemployment due to temporary shocks to labour supply (Hennecke and Pape, 2021), or the impossibility of the working mother being able to work from home (Boll *et al.*, 2021). Fifth, as a result of a higher level of stress at home and a lower level of satisfaction at work, a new gap in psychological distress has emerged for working women compared to both men and childless women (Zamarro and Prados, 2021). Sixth, at best, and in conclusion of this paper, the pandemic has not produced any substantial long-term effects on stereotyping, gender discrimination and gender role attribution at large (Boll *et al.*, 2021; Hank and Steinbach, 2021; Reichelt *et al.*, 2021). Nevertheless, we believe in the value of conducting much more research on this topic.

Future research could further investigate the role of individuals (familial level) and organisations (work environment) in reducing gendered roles, especially during times of prolonged uncertainty (Fisher and Ryan, 2021). In addition, the use of the difference-in-difference (DID) method or experiments has been suggested to further analyse the effects of COVID-19 in different cultural and economic background settings (Yamamura and Tsustsui, 2021). A cross-country evaluation of the impact of national culture on the evolution of the gender gap following a pandemic shock could also be a promising research avenue. Even if early evidences of maternal telework seem to suggest a negative outcome for gender equality (Boll *et al.*, 2021), we believe that further, more generalised, research on the impact of remote working and "the new normal" could lead to different results, especially in the long term. Finally, we recognise the potential value of deepening our understanding of the long-term effects of this unprecedented shock, since most of the contributions we reviewed were aimed at investigating the early stages of the pandemic and/or its close developments.

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PhD Research Papers

Rhetorical Space and the Virality of the Bring Back Our Girls Campaign

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Abstract: On April 14th, 2014, at about 11:35pm, 276 girls were abducted by the insurgent group Boko Haram from their boarding house in Government Girls College, Chibok in Northeast Nigeria. Nigerians, joined by the rest of the world, began to demand that the Nigerian government rescue the abducted girls. This agitation birthed the tagline Bring Back Our Girls. What started as a simple hashtag on Twitter would later become a global campaign tagged Bring Back Our Girls. Rhetorical spaces—virtual, material, and agential— have contributed to the escalation, amplification, and sustenance of the Bring Back Our Girls campaign. In this paper, I argue that social campaigns connect disparate spaces, virtual, material, and agential to propel, amplify and sustain conversations about their causes. This paper looks at the different spaces that added and continue to add agency to the Bring Back Our Girls movement. I conceptualize rhetorical space by drawing upon divergent views from rhetorical scholars and social scientists. To answer the research question—how did rhetorical spaces lend credence to the virality and sustenance of the Bring Back Our Girls movement? — the paper looks at Twitter, the media, public personalities and groups, and offline demonstrations as virtual, material, and agential spaces. This paper concludes that the 'spaces' examined gave credence to the virality of the Bring Back Our Girls campaign by using platforms, positions, and features as social capital to influence the conversation about the campaign. Twitter has been the most fundamental agential and virtual space in the virality and sustenance of the campaign.

Keywords: social campaigns, rhetorical space, virality, social media, Bring Back Our Girls, rhetoric

1. Introduction

The Bring Back Our Girls campaign started as an agitation by individuals through the Nigerian local media. They demanded that the incumbent Nigerian government ensure the return of about 300 girls abducted by Boko Haram—an insurgent group—from Government Secondary School, Chibok, Borno State, North East Nigeria. The movement, however, did not have a tag until the #BringBackOurGirls went live on Twitter about ten days following the abduction. A lot of media reports confirming through Twitter analytics have credited the first ever use of #BringBackOurGirls on Twitter to a Nigerian corporate lawyer, Ibrahim Abdullahi. His tweet reads "Yes #BringBackOurDaughters#BringBackOurGirls declared by @obyezeks and all people at Port Harcourt World Book Capital 2014". NBC (2014) reported this tweet to have been inspired by Obiageli Ezekwesili, a former vice president of the World Bank for the Africa region and lead convener of the movement. Abdullahi is also reported to have credited the phrase "Bring Back Our Girls" to Ezekwesili, following her use of it during a TV appearance. From that moment, several international groups, personalities and media began to refer to the movement as Bring Back Our Girls. Ofori-Parku and Moscato (2018), in alignment with these claims, mention that, "In the early days of the kidnapping, the story received sparse coverage in mainstream media outside Nigeria. However, the #BBOG [Bring Back Our Girls] hashtag—started by Nigerian nationals to spur their government to take greater action—gained extraordinary support across the globe".

The turnout of the Bring Back Our Girls movement, although notable, is not novel. Authenticating the power of online platforms, Fabrega and Sajura (2014), in their article on emergence of political discourse on digital network, using the Occupy Movement as a case, situates the call to occupy Wall Street by the Canadian online magazine *Adbusters* on September 16, 2011, as one of the provenances of the Occupy movement, stating that, "within days, hundreds of public spaces were occupied around the US, an in the other counties around the world" .

It has been eight years since the abduction of the Chibok School girls, yet unlike many other social campaigns in the past, the Bring Back Our Girls movement is yet to fade off completely, although evidently not as loud as in the early days. While the return of the Chibok school girls is a cause the movement continues to pursue, advocacy for security and other related issues have now been adopted.

In this paper, I argue that social campaigns connect disparate spaces, virtual, material and agential, to propel, amplify and sustain conversations about their causes. In this regard, I will be looking at the different "spaces"—

virtual, material and agential—that add(s/ed) agency to the Bring Back Our Girls movement. First, as context, I discuss the Chibok school girls' abduction. To situate my argument, I then conceptualize the rhetorical space, drawing upon divergent views from rhetoricians and social scientists. To answer the research question— how did rhetorical spaces lend credence to the virality and sustenance of the Bring Back Our Girls movement? — the paper looks at Twitter, the media, public personalities and groups, and offline demonstrations as virtual, material and "agential spaces.

2. Context: The Chibok School Girls Abduction

On the night of April 14th to 15th at about 11:35pm, 276 girls were abducted by insurgent group Boko Haram from their boarding house in Government Girls College, Chibok in North East Nigeria. 57 of the schoolgirls were able to escape while Boko Haram carted away 219 of them (bbc.com 2017). Before the abduction, Saa (not real name)—one of the girls who later escaped—while speaking at the Geneva Summit for Human Rights and Democracy 2015, mentions that, "they [Boko Haram], went into where the food are kept and they load all the food on the big truck… they didn't allow us to take anything out of the school and they started burning everything, our clothes, our books, everything" (UN Watch, 2015).

Boko Haram released a video about a month following the abduction, showing that the girls were in their custody. They threatened the Nigerian government, saying if members of the Boko Haram group who were in the government's custody, were not released, they (Boko Haram) will equally not let go of the girls (New York Times, 2014) and that the girls will be sold as slave brides (Jibril, 2017). Boko Haram had been operating in northeast Nigeria for several years before the attack on the Chibok schoolgirls. They had before been accused of and taken responsibility for various suicide bombings, massacres, mass bombings that had happened in various northern states of the country. Abimbola (2010) on the motive of Boko Haram, explains that,

> *it seems that the group might not have explicitly given the name "Boko Haram" to itself; rather the name could come from the external view of its basic beliefs: "Boko Haram" is derived from a combination of the Hausa word Boko meaning "book" and the Arabic word haram which is something forbidden, ungodly or sinful. Literally, it means "book is sinful", but its deeper meaning is that Western education is sinful, sacrilegious or ungodly and should therefore be forbidden. Characteristically, the sect not only opposed but outrightly rejected Western education, Western culture and modern science. Alternatively, it embraced and advocated the propagation of and strict adherence to Islam by all and sundry regardless of anyone's personal wishes.*

The abduction of the Chibok schoolgirls undeniably marked a turn in the conversations around the activities of Boko Haram. It instigated a different level of agitation which started from the Bring Back Our Girls campaign in the first week of the girls' captivity, from a national level and then brought up to the international and global institutional glare.

3. Social movement and/or social campaign

I use social movements and social campaigns interchangeably in this paper because the Bring Back Our Girls Movement can be characterized to have elements of both constructs. Scholars in the fields of sociology, political science, communication and the social sciences in general, have been concerned about the construct, social movements. According to Adelaku et. al (2015), citing Berjemo and Bekui (1993), sees "social mobilization campaigns" as mostly being "used to mobilize needful local, national and international available resources around a proposed social action in correcting social injustice". Similarly, Rohlinger (2017) identifies five characteristics of social movement (present in Berjemo and Bekui's definition), as desire to affect social change, use of extra-institutional means to affect change, temporal continuity, organization and collective identity (t. 04:29). In Adelaku et. al's (2015) opinion, social campaigns differ from mass movements and/or social mobilization. He opines that the latter is usually carried out impulsively while social campaigns are usually "intentional focused action structured to solicit attitudinal or behavioral changes, or both in a society". In contrast to Adelaku's definition, Martin (2015), citing Blumer, believes that social movements are first "typically amorphous and poorly organized, after which they develop a culture and social organization".

The question then is, are social movements intentional and focused or amorphous and poorly organized? Smiths and Blumer's categorization of social movements appear as attempts to answer this question posed by the definitions of social movement. Smith (2015) citing Barker et. al, distinguishes "old" and "new" social movements, stating that old social movements were more concerned with established issues such as economic,

legal and human rights issues and they were typically hierarchical in nature, while new social movements are more akin towards identity and lifestyle-oriented issues and are usually more geographically distributed, can be transnational in nature, fluid and communication-driven.

In Blumer's theory of social movements, he identifies three kinds of social movements: (i) general social movement; (ii) specific social movements; and (iii) expressive social movements. General social movement is defined in similar parlance to the "old" social movement by Barker: "general movement operates over a wide range of areas of society and have vague aims, such as women's movement's general aim to emancipate women". However, Blumer believes that "general social movements lack organization, an established leadership, and a recognized membership," while Smith describes "old" social movements as hierarchical in nature. Specific social movements are believed by Blumer to be well structured, with definite goals, collective identity, clear membership and leadership. On the other hand, expressive social movements are "expressive forms of collective behavior that can have profound effects upon individuals and the social order"—examples are religious and fashion movements.

4. Rhetorical space

In this paper, I argue that space can be virtual and material but not merely geographical. Typical definition of space accommodates its geographical perspective only, which is mostly applicable to social scientists and highly contested by rhetoricians. Mountford (2001) defines rhetorical space as "the geography of a communicative event, and like all landscapes, may include both the cultural and material arrangement, whether intended or fortuitous," . Merriam Webster dictionary defines geography as "a science that deals with the description, distribution, and interaction of the diverse physical, biological, and cultural features of the earth's surface." This implies that Mountford's definition of space refers primarily to 'tangible' or 'material' elements. On the contrary, McGaughery-Summers (2013) argues that "space is beyond the 'geography of a communicative event.'

Space is not simply a context where communicative acts take place; instead, *a space is an agential that creates or influences the content and reception of rhetorical acts*) (emphasis mine). Barnett (2012) in agreement, argues that space is not just an inert thing in the world, but is "something that surrounds and grounds human existence or that does not hold sway in the production of political, social, and rhetorical relations", rather, critical spatial theory suggests an alternative look at space—appreciated by rhetoric and composition scholars—defining space as being "deeply implicated in the material conditions of a given time and place, and as such constitutes less a fixed, neutral, or transhistorical idea and more a dynamic, ongoing process or relations involving people, discourses, objects, ideologies, histories, and the built and natural environments that together help establish the conditions of lived experience in the world".

McGaughery-Summers and Barnett's argument forms the theoretical framework with which this paper examines space as not only virtual and material but equally as *agential, which creates or influences the content and reception of rhetorical acts*. In this regard, the artifacts studied are divided into Twitter and media platforms as "virtual" spaces, public personalities and groups as agential spaces, and offline demonstrations such as arts, venue of protest and sit-outs as "geographic" spaces.

5. Analysis

5.1 Twitter and the Bring Back Our Girls Campaign

Until 2017, Twitter, a microblogging site allowed for posts not longer than 140 characters and "interactions can take the form of a mention (when a user writes another username in their messages), a retweet (when a tweet from another user is replicated verbatim, usually with a "RT" at the beginning of it), or a "via" (when a user quotes the message from another user" Fábrega and Sajuria (2014). Hashtags also allow for users to follow up on conversations making it possible to see what other users (beyond a user's network) are saying about a specific issue. Saxton et. al (2015) citing Bruns and Burgess conceptualize hashtags as "short words or phrases that follow the hash or pound sign (#)" and "they are used on social media platforms to brand advocacy movements, archive messages for the movement, and allow those not personally connected to a user to see and comment on messages that use the hashtag".

Mehtra and Gretter (2016) in their conference paper on Hashtag Activism and Gender Advocacy, identify social media as a tool that has made *virtual space* for "the exchange of ideas, perspectives and debates on social

matters of critical importance to people. Similarly, in their recent study, *protests in the information age*, Melgaco and Monaghan (2018) opine that "social networks such as Facebook and Twitter have increasingly played a central role in facilitating and mobilizing social movements throughout different parts of the world. (p. iii). In validation of this, Fábrega and Sajuria (2014), citing Boyd et al, (2010) assert that "the advent of new technologies, particularly Twitter, allows for a new type of conversation between the members of the movements, mainstream media, and the general public. They further argue that "because Twitter's structure disperses conversation throughout a network of interconnected actors rather than constraining conversations within bounded [spaces] groups, many people may talk about a particular topic at once, such that others have a sense of being surrounded by a conversation, despite perhaps not being an active contributor".

Twitter as a space was instrumental to the virality of the Bring Back Our Girls movement. At the time the campaign broke out on Twitter, it silenced hashtags associated with other conversations across the world. Ofori-Parku and Moscato (2018) mentions this about the campaign, "#BBOG's popularity on Twitter topped other international newsmakers during that time, including Malaysia Airlines Flight MH370 (#PrayForMH370), the sunken South Korean ferry MV Sewol (#PrayForSouthKorea), and a squabble between two American pop music celebrities (#WhatJZSaidToSolange). The BBOG hashtag had staying power because it was sparked by a Nigerian Twitterstorm a week after the girls' abduction and got a second wind when Michelle Obama joined the campaign" .

The data generated below is from the #BringBackOurGirls campaign on Twitter between the period when the hashtag was first used online to the day this portion of the paper was written— April 23rd, 2014, to December 3rd, 2018. Crimson Hexagon and hashtagify.me are the social listening tools that enabled these analyzes to be carried out.

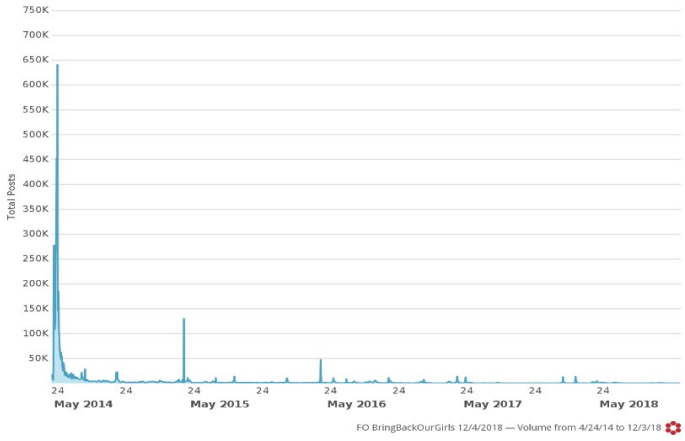

Figure 1: Twitter mentions of the #BringBackOurGirls, #BBOG and the phrase Bring Back Our Girls

From the first time the hashtag #BringBackOurGirls was used on Twitter on April 23, 2014 to December 3, 2018, there has been a total of 7,771,358 posts and 2.6 billion impressions about the Bring Back Our Girls campaign using the hashtag #BringBackOurGirls, #BBOG and/or Bring Back Our Girls in their tweets. While posts refer to published images, texts, GIFS and videos on Twitter, impressions are the total number of times a post is displayed on other people's Twitter timeline irrespective of the level of engagement with it. In the first year of the campaign, that is April 2014 to April 2015, a total of 6,420,434 mentions of related tweets to the campaign were discovered. The results however plummeted in subsequent years as there were 652,052 tweets by the end of the second year of the campaign in 2016. There were 419,448 posts in the third year—2017 and 204,955 by the end of the fourth year of the campaign in 2018 while the first six months of the fifth year recorded a total of 204,051 tweets.

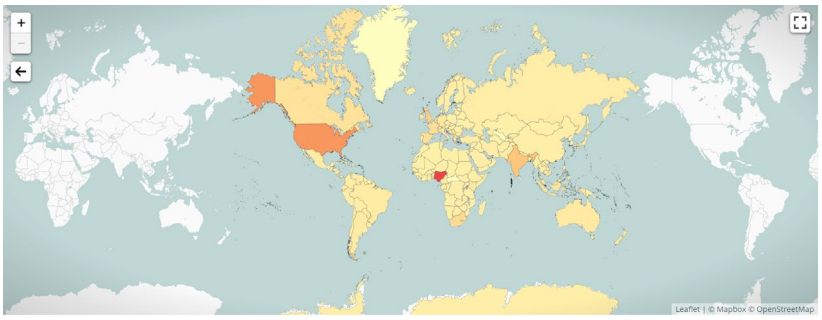

Figure 2: Geographical spread of people tweeting about #BringBackOurGirls, #BBOG and the phrase Bring Back Our Girls

Data obtained from Twitter, through Crimson Hexagon, reveals that tweets about the Bring Back Our Campaign came from 191 countries of the world. According to sciencetrends.com (2017), there are 195 countries in the world. This implies that 98% of the countries of the world had representation in the Bring Back Our Girls conversation on Twitter. While the provenance country, Nigeria had 60, 352 posts with about half of this, it is followed by the United States with 30,248 posts. The top 20 countries with participation in the Bring Back Our Girls campaign in order are- Nigeria, USA, India, UK, South Africa, Switzerland, Spain, France, Canada, Indonesia, Republic of Serbia, Italy, New Zealand, Germany, Kenya, Australia, Brazil, Japan, Netherland and Ghana. Of the first 20 countries, only three are African countries –the continent where Nigeria is —except for the primarily affected country, Nigeria. Several factors like Internet access, Africans living in diaspora, US position as "the economic power of the world", UK as the former colonial master of Nigeria amongst others may have contributed to the skew of participation in the Bring Back Our Girls campaign. This is beyond the scope of this paper.

5.2 The media

The media is often referred to as the fourth estate of the realm as a result of its role in providing access to information and expression of public interest (Amodu, et al, 2014). Amodu et. al, itemize information, socialization, motivation, education, debate and discussion, cultural promotion and entertainment as the fundamental roles of the media in the Nigerian society. Amodu et. al (2014) opines that the media was pivotal in the reception of the Bring Back Our Girls movement, stating that, "the issue [the Chibok schoolgirls abduction] had wide condemnation and protests both within and outside Nigeria, presumably because the media had set the agenda".

According to Jibril (2017), the way the media frames news, determines to a great extent how the public receives the news and what decision they make about it. He argues further that "the process of framing is increasingly becoming pivotal to social movements in the age of the Internet and that media coverage affects how protests are represented to the public and equally may limit protesters' ability to represent their own messages".

In Jibril's study of how online newspapers in Nigeria framed the Bring Back Our Girls campaign, he put forward six media frames on social movements: the Protest frame, the Ineptitude frame, the Abduction frame, Violence frame, the Prognostic frame and Marginalization frame. He concludes that the newspapers favored the campaigners in their report on the Bring Back Our Girls campaign and thus concludes that the media is socially responsible in making the government accountable.

As seen from Jibril's analysis, the Nigerian media –online newspapers in this case, occupied an agential spatial role that influenced the framing and agenda setting of the Bring Back our Girls campaign. To better analyze this, selected posts about the Bring Back Our Girls movement on media platforms are examined.

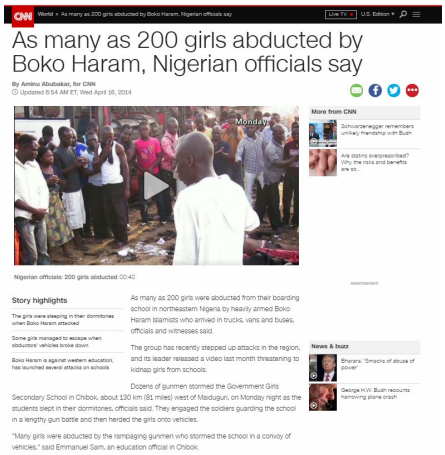

Figure 3: CNN's report on the Chibok schoolgirls abduction

Figure 4: BBC's report on Chibok schoolgirls abduction

Two of the prominent media outlets in the US and the UK were at the forefront of reportage about the Chibok schoolgirls abduction and the Bring Back Our Girls campaign. One of the tools used for analysis in this paper, hashtagify.me, reveals that CNN and BBC are two of the top 30 influential Twitter profiles that participated in the Bring Back Our Girls campaign. While there are discrepancies in the figures released on the number of girls that were abducted, it appears that both local and international news media outlets in the early days of the abduction gave prominence to the abduction over the campaign that ensued almost immediately afterwards.

5.3 Prominent personalities and groups

In his analysis of the semantic network of the abduction campaign online, Smith (2015), identifies "many disconnected" users and "small interconnected" clusters and "isolate" tweeting about #BringBackOurGirls. "Charlie Hebdo", "Malala," "Amnesty" and "UN Women" were the main influencers of the campaign and the conversation included different geographic communities and communities of interest. Smith on interviewing participants about "the place of emotion in #BringBackOurGirls" reports that one of the participants was greatly offended that American celebrities only joined the Twitter activism of the Bring Back Our Girls campaign and did nothing more to support or influence but merely dropped the topic when it was "no longer fashionable". Another interviewee, B. Ibrahim accuses the then First Lady of the US, Michelle Obama, for doing nothing but using the hashtag and "is now in the White House sleeping".

Smith argues that the advent of mobile technology makes issues transcend traditional borders, "jumping from regional to transnational instantaneously on Twitter" which makes it easy for people to respond, retweet and ultimately make the hashtag go viral. He added that the Chibok schoolgirls abduction was perceived as an issue of international threat and since terrorism has been a global issue for a while, then the Bring Back Our Girls campaign was relatable to individuals and government worldwide.

The place of public personalities and groups in the semantic network of conversations on #BringBackOurGirls was established by Smith. Considering this, the paper will look at selected tweets, posts and images of top

influencers from the list of all-time influencers as revealed through using the Crimson Hexagon tool in order to analyze how they used their positions to forward the conversations on #BringBackOurGirls and how these positions serve as rhetorical space for the campaign to thrive.

Public Personalities

Figure 5: Malala

Figure 6: Michelle Obama

Figure 7: Ellen DeGeneres

Figure 5 shows Malala Yousafzai, a Pakistani girls' education advocate who at the time of the Bring Back Our Girls movement was rising into prominence. She had survived an assassination attempt by terrorist group –the Taliban in Pakistan her home country in 2012. Malala is passionate about girls' education and at the age of 11, she started writing for BBC about life as a girl in Pakistan, a country that denied girls of western education. In December of the year 2014, she became the youngest person to ever receive a Nobel Peace prize.

Figure 6 shows the then First Lady of the United States, Michelle Obama, lending her voice to the Bring Back Our Girls campaign. The United States is one of the strongest countries of the world and Obamas were the first blacks to occupy the highest office in the US. Michelle Obama's tweet according to data from Crimson Hexagon is the most retweeted tweet of the Bring Back Our Girls campaign. This tweet was pinned to her Twitter timeline. Although this tweet received several backlashes from various political spheres in the US and across the world, it was undeniably instrumental to the virality of the hashtag and the Bring Back Our Girls campaign in general.

Figure 7 shows Ellen DeGeneres, a popular comedian and foremost LGBT activist. Ellen has a long career in the American entertainment industry and is also known as one of the first public figures to "come out" on her sexuality.

Figure 8: US lawmakers

Figure 8 is Rep. Frederica Wilson, a democratic politician and member of the House of Representative in the United States. Her account @RepWilson on Twitter, is one of the recent most influential accounts still tweeting about the abduction of Chibok schoolgirls. As observed, the prevailing message about the Chibok girls on Rep Wilson's Twitter page is to reemphasize that she and her colleagues in the US House of Representative still remember the Chibok girls and thus will continue to demand for their return

Figure 9: Prominent groups based in Nigeria

Figure 10: Prominent groups based in Nigeria

Figure 11: Prominent groups based in Nigeria

Figures 9, 10 and 11 are from prominent groups based in Nigeria still advocating for the return and rescue of the Chibok girls on Twitter. Figure 11 is the official Twitter handle of the Bring Back Our Girls while 9 and 10 is associated with non-governmental organizations advocating for child rights and government accountability respectively. While several non-governmental organizations joined the campaign at its inception, some others later joined to sustain the conversation on the Bring Back Our Girls campaign.

Figure 12: Intergovernmental and non-governmental agencies

Figure 13: Intergovernmental and non-governmental agencies

Figures 12 and 13 are intergovernmental and non-governmental agencies respectively that are saddled with the responsibility of protecting human lives and rights across nations of the world. Amnesty International not surprisingly continues to be at the forefront of international agencies demanding the release of the Chibok girls even several years after the abduction.

5.4 Offline demonstrations

At this point, the paper takes a new trajectory, to examine how geographic space was employed for the virality of the Bring Back Our Girls campaign. This is in congruence with Mountford's (2001) definition of space as the geography of a "communicative event". Since the inception of the Bring Back Our Girls campaign, conveners and supporters of the movement have organized several protests, sit-outs as well as artistic expressions, to communicate the demands of the campaign.

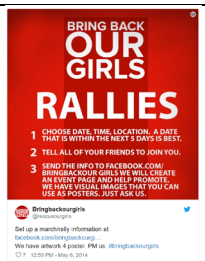

Figure 14: call and response to action

Figure 15: call and response to action

The figures above, 14 and 15 represent the call and response to action at the initial stage of the Bring Back Our Girls campaign. While figure 14 shows how conveners used Twitter to call for protests across the world, figure 15 shows what could have been a possible response to the call in a different continent that is about 7,000 miles away in air travel.

Figure 16: Itinerary of the sit-outs in specific locations

Figure 17: Itinerary of the sit-outs in specific locations

Figures 16 and 17 show the itinerary of the sit-outs in specific locations of the country, which keeps the conversation about the campaign going. The sit-outs currently take place in the state capital and the most populated and economically viable states in the country.

6. In conclusion

The Bring Back Our Girls movement is still on. It is yet to end. Even though some of the abducted girls were returned by Boko Haram, the agitation for the remaining girls is still ongoing. The movement has included concerns for other girls kidnapped after the Chibok girls as well as security concerns in Nigeria.

In answering the research question, did rhetorical spaces lend credence to the virality and sustenance of the Bring Back Our Girls movement? The paper looked at Twitter, the media, personalities and groups and offline demonstrations. The Bring Back Our Girls campaign recognizably started on Twitter with the #BringBackOurGirls. The national and international media, public personalities and groups then latched onto the campaign.

While public personalities and the media influenced the spread of the campaign in its early stage, they cannot be credited for the sustenance of the movement. Several public personalities tweeted about the movement just once and never followed up on the conversation on Twitter anymore. Offline demonstrations like the daily sit-outs have been limited in geographical areas to Nigeria alone. However, Twitter as a virtual space has been fundamental to the start and sustenance of the campaign. Twitter has served as a hub for the media to know about the dealings of the campaign group. Also, for the media to disseminate information gathered about the activities of the campaigners as well lend their voice to the conversation. Twitter continues to serve as the notification platform for offline demonstrations and calls to offline actions.

All spaces examined in this paper gave credence to the virality of the BringBackOurGirls campaign by using their voice and positions as social capital to influence the conversation on the campaign. In conclusion, of the different 'spaces' looked at in this paper, Twitter has been most fundamental in the virality and sustenance of the campaign.

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Micro-Level Factors That Affect Females' Decisions Towards Leadership in Higher Education: A Literature Review

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Abstract: This paper is based on an ongoing PhD research named "Understanding the Lack of Female Leadership in Higher Education of Kazakhstan". The aim of this study is to identify empirical studies that explored micro-level factors affecting female leadership in higher education. Thus, a systematic literature review technique was used to synthesise research from a gender perspective of leadership in higher education. An initial screening process resulted in a final sample of 37 appropriate studies. The synthesis of these empirical studies revealed that there are different leadership domains in higher education: academic and professional. Therefore, the micro-level factors that affect these domains include the purpose of doctoral studies, the change of interests, identity and gender, self-awareness, self-management, self esteem, self efficacy and work-life balance. This study contributes to the development of female leadership in higher education.

Keywords: female leadership, higher education, systematic literature review

1. Contextual background

Kazakhstan has a unique history, which perplexes in an interesting and conflicting societal expectations on gender roles. These norms echo in families, education and careers of women (Kuzhabekova & Almukhambetova, 2017, 2019). Kazakhstani females might be discouraged by their family members to pursue technical or higher ranked positions; and are advised to choose "more feminine" professions (Almukhambetova & Kuzhabekova, 2020). The reasoning is that a woman should not be more ambitious than men, therefore her current or future husband will be more comfortable with her career choice. Interestingly, education, due to its nurturing nature, is considered a feminine profession in Kazakhstan (Dubok & Turakhanova, 2018). For instance, in the higher education sector of the country, women represent 64% of all faculty members. Kazakhstani female faculty members are as educated as male faculty members, however, the number of women at the higher education leadership level is significantly lower than men (Lipovka, 2018). This phenomenon is not unique to Kazakhstan, therefore this paper presents the part of the literature review of the ongoing PhD research on female leadership in higher education.

Literature shows that academic professions has expanded, and there are no more clear-cut boundaries between academic identities (Whitchurch, 2006; Whitchurch, 2008; Whitchurch & Gordon, 2009). For the clear understanding of concepts, the author acknowledges several distinctions in university careers that are applicable to this study. Academic careers in universities are related to teaching, research and service, which may include some administrative or supervisory responsibilities. Non-academic careers in universities may consist of counselling and consultative positions, and also program or project management. Leadership, planning, policy-making, supervision and other administrative responsibilities are referred to as managerial positions. Other careers that do not require overseeing and decision making, can be named as non-managerial careers, since they require only carrying out the professional functions for the organization (Whitchurch, 2008). The author realises that some positions may overlap and may not have clearly bounded responsibilities in higher education settings.

2. Search methods

The author followed the systematic literature review process in order to explore the gender perspective of micro-level factors that affect decisions to pursue leadership careers in higher education because the systematic literature review is an objective and comprehensive process to collect information about the empirical research in a clear and transparent manner (Cresswell & Creswell, 2017; Klassen, Jahad & Moher, 1998; Weed, 2005).

At first, the Google Scholar search was used to identify key words, get the initial ideas about the discussion and to locate the most authoritative publications and authors in the relevant domain by comparing the number of citations. Some articles were in open access, some were not. The author saved the exact titles and DOIs of the publications of interest, in order to access them through university's online library. After the core articles were identified, the author used the "snowballing" method by going to the references of these articles and exploring

the relevant literature in more details. Therefore, this study presents the initial search via Google Scholar, snowballing the references of the core articles relevant to the topic and accessing specific fee-based articles through the university's database. This initial step of the literature review process was completed in an academic year of 2020 - 2021. The next step in the literature review process is to separately analyse the databases for which the university have access. After that, the sources in local language will be explored. These steps of the literature review are in the process in the academic year of 2021-2022.

3. Sample

The articles that are located in the initial literature review process process had to comply with the following criteria: 1) to be published in a peer-reviewed journal; 2) in English language; (3) have keywords "female/women in top management/leadership in higher education" or "female/women leaders/top managers in higher education". The year of publication was not restricted. After identifying relevant studies, the inclusion criteria were checked again, and the full text articles were obtained. The full texts of the articles had to be: (1) an empirical study, (2) discuss female leadership in higher education as main topic. A final sample of articles consisted of 37 appropriate studies, which were published from 1998 to 2019. 18 of those studies are quantitative, 19 are qualitative.

Table 1: Databases and journals included in the systematic literature review

N	Authors	Year	Database	Journal/Report/Dissertation	Type
1	Golde & Dore	2001	ERIC	National Report	Quant
2	Wendler et al	2012	-	Educational Testing Service	Quant
3	McAlpine & Emmioğlu	2015	Taylor & Francis	Studies in Higher Education	Qual
4	Hayter & Parker	2019	Science Direct	Research Policy	Qual
5	Edwards et al	2011	ACER	Higher Education Research	Quant
6	Boyle & Boice	1998	Springer	Innovative Higher Education	Qual
7	De Welde & Laursen	2011	-	International Journal of Gender, Science and Technology	Qual
8	Roach & Sauermann	2010	ScienceDirect	Research Policy	Quant
9	Vasquez-Guignard	2010	ProQuest	Dissertation	Quant
10	Kameshwara & Shukla	2017	MDPI	Administrative Sciences	Qual
11	Sallee et al	2016	Springer	Innovative Higher Education	Qual
N	Authors	Year	Database	Journal/Report/Dissertation	Type
12	Adams	2009	Emerald	Educational Leadership: Global Contexts and International Comparisons	Qual
13	Davies, Spencer & Steele	2005	APA PsycNet	Journal of Personality and Social Psychology	Quant
14	Dunn, Gerlach, & Hyle	2014	-	International Journal of Leadership and Change	Qual
15	Thornhill	2011	ProQuest	Dissertation	Qual

N	Authors	Year	Database	Journal/Report/Dissertation	Type
16	Airini et al	2011	SAGE	Educational Management Administration	Quant
17	Vicary & Jones	2017	MDPI	Administrative Sciences	Qual
18	Scott	2018	MDPI	Administrative Sciences	Qual
19	Kuzhabekova & Almukhambetova	2021	Taylor & Francis	Compare: A Journal of Comparative and International Education	Qual
20	Lent & Brown	2013	APA PsycNet	Journal of Counseling Psychology	Quant
21	Gander	2018	Taylor & Francis	Perspectives: Policy and Practice in Higher Education	Quant
22	Nabi	1999	Emerald	Career Development International	Quant
23	Sagas & Cunningham	2004	Springer	Sex Roles	Quant
24	Ricketts & Pringle	2014	Taylor & Francis	Journal of Higher Education Policy and Management	Qual
25	Major, Quinton & Schmader	2003	ScienceDirect	Journal of Experimental Social Psychology	Quant
26	Won, Bravo & Lee	2013	Taylor & Francis	Managing Leisure	Quant
27	Renkema,Schaap & van Dellen	2009	Emerald	Career Development International	Quant
28	Hancock & Hums	2016	ScienceDirect	Sport Management Review	Qual
29	Clarke	2009	Emerald	Career Development International	Qual
30	Tessens, White, & Web	2011	Taylor & Francis	Journal of Higher Education Policy and Management	Quant
31	Wright	2014	-	Dissertation	Qual
32	Rosser	2004	Springer	Higher Education	Quant
33	Elliot	2003	Springer	Journal of Family and Economic Issues volume	Quant
N	Authors	Year	Database	Journal/Report/Dissertation	Type
34	Lauzun & Morganson	2010	Taylor & Francis	The Psychologist-Manager Journal	Quant
35	Manfredi & Ledwith	2000	-	European Journal of Women Studies	Qual
36	Lewis	2001	Emerald	Women in Management Review	Qual

N	Authors	Year	Database	Journal/Report/Dissertation	Type
37	McDonald et al	2005	Emerald	Employee Relations	Qual

Information from the studies was 4rganized using Garrard's Matrix Method (1999). For this particular literature review, the main extracted information was: (1) key arguments; (2) contextual information; (3) methodology.

4. Findings

4.1 What are the individual micro-level factors that affect decisions to pursue careers in higher education for academic staff and managers?

4.1.1 The purpose of doctoral studies

Some doctoral students, who aspire to become academic staff in their future might not understand what the Ph.D. studies entail (Golde & Dore, 2001; Wendler, Bridgeman, Markle, Cline, Bell, McAllister & Kent, 2012; McAlpine & Emmioğlu, 2015; Hayter & Parker, 2019; Edwards, Bexley, & Richardson, 2011). While there are clear benefits of obtaining a doctoral degree for the future career in terms of investing in human capital, skills, and networking, little is known how graduate students navigate their academic staff careers and how they perceive the job market after obtaining an advanced degree. Large cross-comparative studies has shown that one-half of American graduate students and one-third of European students do not aspire academic staff jobs due to the competitive nature of the profession; and more men, than women desired a faculty career (Golde & Dore, 2001; Wendler et al, 2012). Women related their hesitations to the juggle between family and professional life; however, men were most concerned about professional and institutional influences towards their leadership journey (Wendler et al, 2012).

4.1.2 The change of interests

Few studies have examined how the change of individual interests affects the decisions to pursue academic staff careers (Boyle, 1998; Golde & Dore, 2001; Wendler,et al, 2012). According to Golde and Dore (2001) one-third of the doctoral students lose their interest in pursuing academic careers, while only one-fifth become more interested. The reasons for men were related to professional aspects, while women mostly mentioned personal factors (Boyle, 1998).

Also, if one had an experience with teaching or research employment before entering graduate school, it affects positively on further career choices as academic leaders (Edwards et al, 2011; McAlpine & Emmioğlu, 2015). Doctoral students who prefer the freedom of choice and intellectual development are more likely to choose careers in academia; and those who are mostly concerned with salary and access to resources (either financial or in relation to power) prefer job opportunities in corporate or on the individual basis (Roach, & Sauermann, 2010). Early-career researchers change interests from academic careers to other professions in the industry because of lack of clear support from the graduate schools in terms of career opportunities and the navigation processes, but the change of interests from the gender perspective has not been mentioned in the current study (McAlpine & Emmioğlu, 2015).

4.1.3 The nature of the academic profession

However, research that explores the academic workforce from the gender perspective exists. Female doctoral students experience different obstacles in their academic staff careers that hinder their aspirations to leadership (Welde & Laursen, 2011). Those barriers include the feelings of isolation, 4arginalization and exclusion because the majority of the academic community are males who have formed their own community of support and treat females as outsiders. The lack of accurate information about career opportunities, the insufficiency of skills and networks, and personal existential crisis coerce potential academic leaders to leave academia (Hayter & Parker, 2019). Also, the lack of female role models in the field cause females to be stressed while juggling between academic work and personal life (de Welde & Laursen, 2011). For women, good academic advising, supervision and mentorship boosted females 'self-confidence to reach higher ranked positions (Edwards et al, 2011; de Welde & Laursen, 2011).

4.1.4 Identity and gender

An extensive number of empirical research shows that women's proactivity and personal drive towards leadership play a crucial role in their professional lives (Vasquez-Guignard, 2010; Kameshwara, & Shukla, 2017; Calizo, 2011; Sallee, Ward, & Wolf-Wendel, 2016). While women doubted their intellectual abilities, skills or might not desire additional leadership responsibilities due to the lack of energy and time; men expressed more confidence about reaching leadership positions in academia. At the individual micro-level females perceive leadership as an endeavour of men and distance themselves from leadership as a professional identity. Studies from diverse parts of the world illustrate that female academics take more of the domestic responsibilities than men, and hence do not aspire to additional leadership obligations at work (Kameshwara, & Shukla, 2017). Female academics might doubt their professional skills, self-efficacy to be a leader and hence do not apply to promotions (Calizo, 2011). Women academicians disentangle the leadership identity from their personal goals because it contradicts accepting themselves as women. As women, particularly as mothers, female academic staff express quilt of following their personal needs and aspirations (Sallee, Ward & Wolf-Wendel, 2016).

Adams (2009) describe identity as thoughts how individuals perceive themselves in the contexts such as gender, ethnicity, religion, workplace, family and other social aspects. For women, the issue of identity is complicated, because depending on a context, women may have conflicting societal roles (Adams, 2009; Davies, Spencer & Steele, 2005). The experience in higher education and in public leadership defined gender as a societal constraint to the leadership because of gender-driven roles. As females, women take most of the household issues and the academic management career seems unrealistic to balance with family and personal issues, because the profession is inflexible (Adams, 2009). In Dunn, Gerlach and Hyle's research (2014) female academic managers perceive themselves as "naïve," "having misconceptions," and "being green", because they have not anticipated the path to leadership that they will have: entering the new field in the profession is not always a smooth process, since not all colleagues are comfortable with having a female leader.

4.1.5 Self-Awareness and skills

Research on female academic leaders has revealed self-awareness as a critical component for the leadership (Thornhill, 2011; Airini, Collings, Conner, McPherson, Midson & Wilson, 2011; Dunn, et al, 2014; Vicary & Jones, 2017). To become a successful leader women have to be aware of their values, priorities, skills, self-perception as a leader and be willing to take rising opportunities: high level self-confidence and self-esteem were crucial factors that helped them to achieve leadership positions in academic management, attributing self-esteem to success (Cubillo, 2003). The ability to lead the team by 5tilizing their passion and energy to bring positive changes to organisations is vital for leaders (Scott, 2018). Female academic managers had identified transferable skills are integral for their leadership capacity (Thornhill, 2011).

4.1.6 Proactivity and communication

In addition to skills, proactivity has been distinguished as a factor that affects female leadership in academic careers. Factors that contribute to the development of female leadership are: "the planned proactivity" which is visualising personal success, setting up small milestones, and learning from mentors and networks and "the spontaneous proactivity" that is putting the doubts aside, taking the advantage of the situations, and making quick, but intelligent decisions (Airini et al, 2011). Female academic leaders in education management should be able to reasonably and proactively communicate with the team for positive workplace dynamics (Dunn et al, 2014). However, communication patterns and perceptions of a leader might be gendered in organisations due to the socialisation. Eagly (1987) explained it as a "gender-role congruity": females are considered as primary caregivers of the family and men are the breadwinners. These socialisation norms have transmitted to the workplaces, and if females' behaviour is different than it was expected, negative attitudes and rejection arise. This theory is well supported from the research from Central Asian context - Kazakhstani female leaders reported experiencing the cognitive dissonance of professional and societal expectations from them (Kuzhabekova & Almukhambetova, 2019).

4.2 What are the individual micro-level factors that affect decisions to pursue careers in higher education for professional staff and managers?

4.2.1 Self-Management, self-esteem and self-efficacy

Self-management is an individual's behaviour and actions, while facing challenges and opportunities within an 6rganization (Lent and Brown, 2013). Most of the literature on self-management for university professional staff relate it to professional development, stating that professional development opportunities are the core of self-management in career attitudes (Gardner, 2014; Nabi, 1999). Interestingly, research uncovered that men invest more into their professional development than women, but when calculating the financial returns, one's gender did not matter (Sagas & Cunningham, 2004). The research on female professional staff disclose the existence on subjective discrimination in terms of salary, decision-making opportunities and the value of their work which might result in turnover or lowering self-esteem and motivation of females (Major, Quinton & Schmader, 2003; Ricketts & Pringle, 2014). Although women might be offered the same promotion opportunities as men, they are not quick to apply for it because they are more affected with balancing the family-work life or bias at workplaces, which results in their confidence level (Tessens, White & Web, 2011). If women receive verbal reinforcement, encouragement and validation from their peers and supervisors, their level of confidence and motivation for leadership increase and vice versa, if not (Calizo, 2011; Gardner, 2014; Rosser, 2004; Wright, 2014). Female professional staff inform that they undergo professional development to enhance their competencies in order to avoid the "leaky pipeline" – the decreasing number of minority professionals, who could have been successful, but left the job due to various factors, including individual, institutional and larger barriers (Hancock & Hums, 2016).

4.2.2 Work-Life balance

Research agrees that family-friendly policies are useful to address the issues of work-life balance and females with children use such policies the most (Elliott, 2003; Lauzun, Morganson, Major, Green, 2010; Ledwith & Manfredi, 2000; Lewis, 2001; McDonald, Guthrie, Bradley, & Shakespeare-Finch, 2005). Females share that they are not as productive as they could be as professional staff due to the multiple roles they carry, and they need more support from family and institutions (Wright, 2014). More flat and decentralised structure of university management could address work-life balance issues more effectively for all employees, not only females (Lauzun et.al, 2010). Wright (2014) suggests that further research should be conducted from the perspective of female graduate students seeking an employment as university professional staff from the perspective of institutional factors that affect the work-life balance, which will also be explored further in a PhD research.

5. Conclusion

The main purpose of this paper is to unveil the gendered perspective of micro level factors that affect decisions towards leadership in higher education through initial systematic literature review for a broader PhD study. This literature review did not place on the publication year of the studies, however due to the increasing interest on gender studies the author notices that more research had been published in the last two years. Therefore, this literature review is an initial step towards a broader exploration of the topic. An important observation can be made about the leadership studies in higher education - due to the expansion of academic boundaries and careers, one should be always aware of what is considered as leadership in higher education and in which domain - either academic, professional or both.

First, the author has distinguished that leadership careers in universities can be considered as academic or professional ones. Academic staff are employees who teach, conduct research and provide institutional service. Academic managers are personnel with administrative responsibilities, such as deans, rectors, vice-deans i.e. those who are at the executive positions in higher education. Although in some settings academic staff and academic managerial careers may be intertwined. Professional staff also have academic credentials, such as Master's or PhD degrees, and teaching or research experience. These individuals hold specialist roles, but without an academic contract. Professional managers, located higher on the career ladder, have more decision-making power and overseeing functions (Whitchurch, 2006; Whitchurch, 2008; Whitchurch & Gordon, 2009).

Second, this review explored the micro-level factors that influence decision to pursue leadership positions from the perspective of academic or professional staff, with respect to the gender differences. Academic staff and managers were affected by the shifting the purpose of pursuing doctoral studies and the nature of academic

profession, changing personal attitude, complexity in gender and identity perception, being aware of the self and skills, managing, proactivity and communication issues. Female academic staff are less likely to desire leadership positions, because of lack of support and understanding on how to navigate their careers and family life. Some doubt their skills and abilities, therefore not proactive in approaching to leadership positions. For some women, leadership and gender re conflicting issues, because the leadership has a ‘‘masculine” nature in some contexts. This findings resonates with the Kazakhstani context, where females are discouraged to pursue leadership positions in order to be ‘‘more feminine”.

The gendered perspective on leadership of professional staff and managers were concerned self-management, self-esteem, self-efficacy and work-life balance. Women who are more effective at self-management are more likely to be motivate to pursue leadership careers. Leadership career aspirations are boosted when females have support and role models. One of the main challenges remained is the issue of work - life balance while striving for the leadership positions.

Men and women we have clearly distinguishable and irreplaceable roles in the society. Therefore, it is important to explore the gendered perspective of factors that affect decisions to pursue leadership careers, including those at the micro-level, so that those factors don’t hinder anyone from achieving their professional potential, because it is a basic human right and natural desire to develop and progress.

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Non Academic Paper

MILIEU H2020 Project 'Women, Disability and Inclusion': Introducing the Project

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Abstract: The paper introduces the MILIEU H2020 Project 'Women, disability and inclusion – scientific excellence in Bulgaria' – a Coordination and Support Action (CSA) project funded under the Horizon 2020 Programme, 'Spreading excellence and widening participation – Twinning' Call. The project aims to unlock, foster and sustain high-quality research at the intersection of studies on women, disability and inclusion by promoting collaboration, networking and an intensive exchange of research between partners. As a project to widen participation, MILIEU is specifically focused on driving excellence and enhancing the research-related fundraising and management competencies of the scholars and staff of the coordinating partner from the target country – in this case, the Institute of Philosophy and Sociology at the Bulgarian Academy of Sciences. The paper introduces MILIEU's goals, methods and expected impact and presents the principal tasks and activities in implementing a project related to fostering research in the areas of women, disabilities and inclusion. It also describes the risks and challenges faced by MILIEU and the consortium and how they were overcome and turned into success stories.

Keywords: H2020, MILIEU, women, disability, inclusion

1. Introduction

The MILIEU H2020 Project 'Women, Disability and Inclusion – Scientific Excellence in Bulgaria' addresses a specific need of the Institute of Philosophy and Sociology at the Bulgarian Academy of Sciences (IPS-BAS) through obtaining, for the first time within an EU-funded programme, support to promote research on women, disability and inclusion by fostering the cooperation of IPS and BAS with two international leading research institutions – Universidad Complutense de Madrid, Spain (UCM) and Università degli Studi di Genova, Italy (UNIGE).

The MILIEU project started on 1 January 2021, is a three-year CSA, funded under the Horizon 2020 Call 'Spreading excellence and widening participation – Twinning'. As a CSA aimed at widening participation, MILIEU fosters networking, coordination and raising awareness to promote competence-building, scientific excellence and the introduction of new lines of research. Moreover, this specific call allows MILIEU to undertake R&I activities not usually included in CSA projects.

2. Background

In Bulgaria, the poorest country in the EU, to be a woman with a disability is, almost inevitably, to face overwhelming disadvantage. As observed in the intersectionality literature (e.g. Romero, 2018; Hvenegård Lassen and Staunæs, 2020; Cho, Crenshaw and McCall, 2013), this amounts to much more than double discrimination.

According to different data sets, between 7% and 16% of the Bulgarian population experience some degree of disability or long-standing limitation to their usual activities due to health problems (e.g. National Statistical Institute, 2011; Eurostat, 2020). Gender disaggregated data show that, in 2019, 18.2% of women in Bulgaria reported some level of restriction compared to 13.9% of men (Eurostat, 2020). In 2021, 223,867 women were eligible to receive a disability pension compared to 192,374 men (National Social Security Institute, 2021). Even considering the difference in the proportion of women compared to men, which according to data from the recent 2021 census is 52% to 48% (National Statistical Institute, 2021), the ratio of those receiving a disability pension is still higher for women – 7.6% of women compared to 6.1% of men. Despite this significant discrepancy, there is a distinct lack of social policy initiatives or research and innovation projects focused on women with disabilities. In recent decades in Europe, and particularly Bulgaria, much progress has been made on issues experienced by women with disabilities; however, in Bulgaria, disability remains mainly hidden, denied, misrepresented or misevaluated (Bulgarian Helsinki Committee, 2017), and social policies aimed explicitly at women with disabilities are almost non-existent. In Bulgaria, people with disabilities are still generally treated

as 'non-abled'. They are seen merely as recipients of social assistance (Bulgarian Helsinki Committee, 2017) by the state and public bodies, despite the signing and ratification of the UN Convention on the Rights of Persons with Disabilities (adopted by the UN in 2006, signed by Bulgaria in 2007 and ratified in 2012) and the recent adoption of the Law for People with Disabilities (2018). Moreover, despite adopting the Law on Equality between women and men (2016), intended to establish the principle of equality as a coordinated state policy, a few mechanisms and measures for its implementation at different levels have been enacted; as a result, little has changed in practice. Furthermore, despite progress across Europe towards gender mainstreaming, a gender-oriented approach is almost impossible in Bulgaria, where disability studies are currently not pursued from a gendered perspective, and gender and disability studies are scarce. Therefore, other than basic statistics, data on disability-related to gender has been lacking in Bulgaria (CERMI European Conference, 2007). Women are often not considered separately, even in professional and specialised investigations on inclusion or disability.

Motivated by the specific needs of Bulgaria, MILIEU is also driven by the more substantial attention paid to women, disability and inclusion in scientific domains within the EU. After the introduction of the CRPD in the EU in 2010, ratified in Bulgaria in 2012, and thanks to the earlier affirmation of the Disability Rights and Feminist Rights movements, it is now clear that a cultural divide still exists in the academic environment, where specific social and scientific fields remain completely unexplored. This void lies at the core of MILIEU, which answers a concrete need to implement a project tackling such issues, introduce new research paths linked to women, disability and inclusion, and enhance research excellence and the scientific environment both for the target partner and the two collaborating partners in the project consortium.

3. MILIEU's goal, objectives and expected impacts

In response to the objectives and specifics of the EU call, MILIEU aims to initiate a resolution to the problems described above.

The overall goal of MILIEU is to create a networking collaboration between the IPS-BAS and two highly renowned universities – UNIGE and UCM, with the final aim of increasing the capacity of IPS-BAS and BAS for scientific excellence, visibility and research innovation to enable ground-breaking research at the intersection of studies on women, disability and inclusion. This result will ensure the opening of new avenues for research, driving excellence and introducing concrete actions to welcome European Research Area (ERA) priorities in Bulgaria and its surrounding academic environment. As these research topics are almost completely unaddressed in Bulgaria, MILIEU will bring significant research and societal impacts in the long term, introducing a new line of research-related to disability studies, feminist disability studies, and gender and women's studies at IPS-BAS and in Bulgaria.

Specific objectives

The multifaceted overall goal will bring positive change to IPS-BAS, the whole BAS Academy and the advanced project partners – UCM and UNIGE. To fulfil its goal, MILIEU has devised a set of interlinked specific objectives that together form the project implementation.

The first specific objective is to enhance the scientific and technological capacity of the consortium and, in particular, of IPS-BAS and BAS. This objective outlines the scientific strategy for introducing, stimulating and increasing excellence and innovation capacity, and an action plan designed to generate impacts for IPS-BAS, UCM and UNIGE in the research fields related to women, disability and inclusion. This objective also includes a portfolio of actions to be implemented at IPS and BAS to align it with ERA priorities and improve research and scientific activities. The almost complete absence of research projects in the domain in which MILIEU is interested testifies to the need to address these knowledge gaps, to introduce new research lines and research proposals, and to promote international scientific activity to address the knowledge gaps and the needs outlined in MILIEU.

The second specific objective of MILIEU is to raise the research profile of IPS-BAS and BAS, and increase their international networking activities and attractiveness within Bulgaria and the EU. This objective aims to guarantee IPS a leading position in the region in the research domains fostered by MILIEU and to ensure high visibility at the EU level. As a twinning action, MILIEU offers IPS and its scholars the best opportunities to open

up to the EU thanks to interactions with the project partners and the enlarged international networking and knowledge exchange fostered by the project.

It is worth mentioning that, although targeted primarily at IPS and BAS, this objective is also relevant to wider academic circles and Bulgarian society as a whole. As Bulgarian scholars cannot fully break away from their heritage of past isolation, their participation in EU-funded projects remains low. According to Bulgaria's Horizon 2020 national profile, the international visibility of Bulgarian scholars remains well below average – 3.6% of top-cited publications compared to an EU average of 11.1% (EC, 2021). Within its second objective, MILIEU lays the foundation for more positive scientific activity at IPS and BAS, with the potential to extend the results to the whole country with specific and durable actions. Thanks to this project, Bulgaria – until now marginal – will be relaunched in the active and receptive international scientific arena. In addition, the Responsible Research and Innovation (RRI) focus, now fundamental to European research strategies, is firmly embedded in the project's implementation philosophy and contributes to IPS' leading position in applying sustainable and responsible R&I in Bulgaria.

The third specific objective of MILIEU is to train early-stage researchers (ESR) at IPS and BAS by involving them in research activities at the international level in the fields fostered by the project. This will enable them to progress towards internationalisation while enhancing their career development and their independent thinking in the international arena. The main targets of this objective are ESR at IPS and BAS (in 2018, BAS had a total of 438 PhD students and 297 young scholars); however, the activities developed within SO3 are also open to ESRs from other institutions to maximise the project impact. This objective will also impact broader academic circles and society as a whole, as MILIEU strives to create a fertile and creative scientific environment to help prevent brain drain. Moreover, the activities envisaged by the project will reinforce the career development and independent thinking of ESRs, thus contributing to enhancing the research potential of IPS and Bulgaria. Such increased networking will produce a long-lasting multiplier effect, driving the growth of new generations of promising, internationalised researchers, open to the world.

The fourth specific objective pursues the attainment of high-level management and administration skills within IPS and BAS, especially as related to the improvement of capabilities in research management, with a focus on project design and management activities, to increase the likelihood of gaining funding for international research and innovation projects, and to exchange views and experience at international level. According to Bulgaria's Horizon 2020 national profile, only 0.03% of the principal investigators in Horizon 2020 European Research Council (ERC) grants and 0.5% of the participants in Marie Skłodowska-Curie actions (MSCA) are Bulgarian (EC, 2021). Although IPS scores are above the national average, the numbers and statistics related to the institute's performance within the framework of Horizon 2020 show the need to strengthen the research management and administration skills of its scholars. For research institutions in general and, in particular, for those located in Eastern Europe, the ability to secure external funding and manage it efficiently is crucial. According to a Euraxess report on mobility patterns and the career paths of researchers (IDEA Consult, 2013), network and financial effects (i.e. the ability to obtain national and international research funding) are closely linked to the likelihood of success within a given research environment.

To successfully attain this specific objective, the cooperation of senior management at IPS is crucial, and this has been ensured before the project's start. Moreover, MILIEU is opening all opportunities in this specific objective to BAS and wider academic circles to guarantee the broadest possible results.

Approaches, methods and activities

To achieve its objectives, MILIEU relies on a range of approaches and methods, including interdisciplinarity and knowledge sharing, capacity building, a participatory approach, inclusivity, sustainability and far-reaching methods for communication and engagement.

The sharing, transfer and exchange of knowledge are essential for the project and run through all its work packages, activities and tasks. Learning-by-doing, dialogue and training attitudes are the preferred implementation methods of MILIEU and form the project's basic approach. Direct and open participation by the entire IPS staff in the activities, and opening access to interested scholars and staff from other institutes and academic institutions, is vital in creating a more significant impact.

Capacity building and shared learning are the primary approaches of three of the project's work packages, focused on spreading excellence. Training sessions targeted at the researchers, ESRs and administrative staff of IPS and other departments at BAS are the primary means of boosting capability to secure research funding, project drafts, networking and internationalisation. Other activities include cooperation in project drafting (national, EU and international) for research funding, event organisation and networking activities at each partner's premises.

The participatory approach is another key asset of the project, ensured via training sessions and exchanges between researchers within the consortium. Training sessions especially tailored for the ESRs include engagement in studies on disability, inclusion and gender research and introduce these young scholars to different environments, research methods and ways of working, fundamental for training and re-training researchers. Seminars, workshops, short-term placements and visits, summer schools and conferences are all channels to implement the participatory approach fostered by the project. Qualitative sessions with open debates, brainstorming, focus groups and storytelling sessions will lead research innovation processes and guarantee co-constructed and sustainable results.

Other key approaches of MILIEU are inclusiveness and sustainability, ensured by qualitative research using contacts with non-governmental organisations (NGOs), focus groups and narrative interviews that help reach a deep understanding of the advantages linked to enhancing the research in MILIEU's academic field. The quantitative analysis of data linked to women, disability and inclusion in different domains, including – but not restricted to – education, participation and law, facilitates the planning of project activities and the monitoring of the project's success.

The far-reaching engagement of MILIEU, yet another leading approach, is ensured by implementing means of communication and dissemination, such as social and traditional media, films, exhibitions, open participation, public engagement, all in durable and replicable perspectives.

The twinning exercise promoted by MILIEU builds on an appropriate set of key actions, with a strong focus on ESR engagement – from joint training and research paths to bilateral meetings, from short visits to dedicated conferences and summer schools – leading to new research opportunities and joint research projects in the field. The organisation of networking and outreach activities, conferences and dissemination events, and liaison activities with similar projects contribute to the visibility of IPS-BAS and the two partners – UCM and UNIGE – in the field. Finally, to ensure the transferability and uptake of results and the sustainability of MILIEU after the project end date, the partners will produce final recommendations and guidelines for policymakers and other institutions in target countries.

Expected impact

The expected impacts of MILIEU are related to promoting a solid and innovative research culture with the final goal of increasing the excellence, reputation and attractiveness of the consortium – and, most of all, IPS-BAS and BAS – in international networking and cooperation. The successful implementation of the project, thanks to the cross-fertilisation activities fostered, will generate substantial impacts, all contributing to enhancing the excellence and research performance of IPS and BAS. Further, MILIEU will create the conditions to allow IPS to become a leading research institution in Bulgaria, thanks to the enhanced research culture (including ESRs as protagonists) and the institutional changes generated. This impact will attract Bulgarian and European students and help, with its associated effects, to improve the general economic situation in Bulgaria as a result of increased participation in scientific activity and improved business contacts inside and outside Bulgaria.

Considering the above, MILIEU contributes to eliminating the existing gap between EU countries and enhancing the Bulgarian academic sector by:

- enhancing the national research framework for the studies of women, disability and inclusion, within which research is still significantly underperforming, as explained above;
- creating further funding opportunities, by promoting and increasing project design activities and specific fundraising training to obtain external funding for research and innovation activities. This effort is combined with tailored management improvement to be achieved through learning-by-doing activities, specific

training and generating a snowball effect beneficial to the researchers and administrative staff of IPS and BAS and, more widely, to Bulgarian academia;

- introducing active international and national networking;
- substantially enhancing international cooperation and competition;
- creating the conditions for improving the capacity to attract internationally leading researchers;
- creating a concrete transfer of knowledge among IPS, UCM and UNIGE and other actors;
- opening up new and unexplored research lines by developing a pool of expertise in the research domains at the core of MILIEU, creating the conditions for inclusion and equality in the academic environment and selected subjects;
- adopting RRI principles and a participatory methodology towards research, which should involve society, government and industry with academia;
- devising and implementing a dedicated action plan to ensure the project activities' sustainability after each end date.

Figure 1: Project impact and long-term contribution

4. Risks, challenges and success stories in the first year of the project

Identifying and mitigating the various risks and challenges stemming from the internal characteristics of the project and consortium and the external characteristics of society and the specific project field are fundamental

to the successful implementation of any project. This is especially true for CSA widening participation projects such as MILIEU, targeted at overcoming challenges through their goal and expected impact. For MILIEU, the consortium identified several critical risks in the project preparation phase, including hostility to gender equality, low ESR interest, loss of critical competencies or key persons, poor dissemination and communication return, failure to produce a delivery in time. All these risks are monitored, and the impact of project activities is periodically evaluated.

MILIEU faced several challenges within the first year of the project and even before its start.

The very existence of a project targeted at the core topics of MILIEU is a success, given current developments and mobilisations in the public discourse in Bulgaria in recent years over the term gender. Although not the case among SSH scholars and scientists at IPS-BAS, a persistent misunderstanding of the term is supported by its improper and derogatory use (Darakchi, 2019), extending even to a delegitimisation of the field and studies on gender. In order to avoid this turmoil and the risk of being suspended at the institutional or national level, MILIEU has been written using terms that do not form part of the anti-gender mobilisation discourse and is currently taking steps to create a scientific debate that would help resolve the issue.

Another challenge came from the somewhat related, although distinct, widespread perception that in Bulgaria and especially in science, equality between women and men was established many years ago. Merely looking at the statistical distribution and general data, this appears so; indeed, much has been achieved. However, this is rather the remnant of socialist declarative equality, which has little to do with women's autonomy and empowerment or the eradication of gender-based prejudice (e.g. Goldfarb, 1997; Kotzeva, 1999; Miroiu, 2007). This declarative equality has the effect of substantially amplifying the resistance to adopting genuine equality between women and men. As part of MILIEU, one of the authors and another colleague had the opportunity to participate in the commission entrusted with developing the first Gender Equality Plan (GEP) of the Bulgarian Academy of Sciences aimed at boosting equality between women and men in the Academy. Although the adoption of the GEP itself should be credited not to MILIEU but to the European Commission – for making a GEP a prerequisite for Horizon funding – our participation in the project allowed us to observe first hand and, more importantly, to contribute to and steer institutional changes in the Academy towards measures that will foster genuine rather than declarative equality between women and men, overcoming unconscious gender-based bias.

Another challenge faced by MILIEU is the slow pace of changing understandings of and approaches to disability. Changing a culture is a challenging task, and a culture of exclusion needs still more time and competence to be transformed into one of inclusion. The actions planned at the institutional level primarily involve the partner institutions, particularly IPS and BAS. However, information about training activities was disseminated to all higher education institutions, NGOs and stakeholders working in areas connected to disability and gender in Bulgaria. Access to all training and mentoring events was provided for all interested parties. Thus, for example, the last training seminar event of MILIEU in December 2021 welcomed participants from the institutes of the Academy, several universities and NGO representatives, and was able to share best practice with a far wider audience.

Finally, we wish to focus on a challenge faced by all scientific activity in the last two years – the impossibility of organising face-to-face meetings and direct exchanges that were intended, in the project writing phase, to be the primary means for implementing MILIEU. Like all other projects, MILIEU had to adapt to the physical barriers brought by the pandemic and, in doing so, to make the schedule and activities more flexible via online meetings and hybrid sessions. Since online meetings reduce opportunities for personal interaction and sharing, the start of the project was rescheduled so that the key activities needing face-to-face interaction would fall in the summer months, and some activities – such as short-term visits – were postponed to the second and third year. Other activities – such as training sessions and the first co-hosted summer school – were implemented online or in a hybrid form which, in the case of MILIEU, paradoxically led to far higher inclusivity and impact, since a significant number of people had the opportunity to become involved in the absence of physical obstacles.

5. In conclusion: Future activities

In order to achieve its goal and objectives and enhance R&I in Bulgaria, with a focus on the study fields of women, disability and inclusion, MILIEU operates on different levels by:

- 1) implementing an excellent twinning exercise, capable of influencing, engaging and fertilising the surrounding environment;
- 2) intervening in institutional changes at IPS-BAS – with actions specifically tailored to strengthening its scientific and technological bases, in full compliance with ERA priorities;
- 3) developing and implementing a plan to increase research capacity, attractiveness, funding, competitiveness and excellence;
- 4) boosting ESRs' involvement in the international scientific arena.

After the first year of the project, and with the exploratory and planning tasks already complete, MILIEU is, in January 2022, well into its implantation phase, looking forward to some of the key events in the second and the third years of the project.

For 2022 and 2023, the partners envisage online and hybrid training events and seminars, exchange visits, meetings and workshops targeting the managerial staff of IPS and BAS, two international conferences and two summer schools for ESRs and research personnel.

The 2022 doctoral school is scheduled for the early summer in Madrid and will focus on 'Diversity and Inclusion in Responsible Research, Innovation and Communication'. It will gather at least 20 PhD students and ESRs from IPS and the other 41 research institutes at BAS, UNIGE and UCM for three days of intensive training and exchange with experienced scholars and high-level professionals. Its principal objective will be to teach ESRs how to plan and practically implement effective, responsible research and communication strategies to include at various levels the project's direct and indirect target groups, especially those less visible, including the general public.

The 2022 international conference of MILIEU is scheduled for the autumn and, it is hoped, will take place in person in Sofia. The conference will gather leading scholars and grass-root practitioners to explore and discuss key issues and problems related to women's studies, disability and inclusion.[1]

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Work in Progress Papers

When Gender Equality in Academia Takes a Toll on Agency and Well-Being

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Abstract: The present paper aims to investigate the limits surrounding the implementation of gender equality in academia and the correlation between gender measures and the consequences on personal well-being. Despite the efforts to build more inclusive and equal environments, fatigue seems to affect all the university's components, especially regarding the uncertainties of an academic career, seen as stressful, delusional, impossible to conciliate with motherhood. Even appropriate measures cannot deal with the fatigue of what is considered a "double presence": they only allow complying with those standards. Moreover, emotional issues are deriving from choices seen as gender deviant, like not being the major caregiver in the family, and the personal agency is often diminished. The purpose of this study is to show how gender measures in universities are not as neutral and unambiguous as they may seem, but rather fall into one of four approaches to gender inequality itself. These four approaches can be identified as neoliberalism, gender mainstreaming, work-life balance, and the capabilities approach. Agency and well-being could be seen as pivotal aspects and the mix of those elements in each approach results in a different level of fatigue, which, along with stress and mental charge, could play a major role in diminishing the effectiveness of gender equality measures. The significance of this four-sided framework lies in the possibility to reclassify every single gender equality measure and the data collected to support it into one of the four approaches, alongside the opportunity to acknowledge fatigue and evaluate university politics like gender-responsive budgets and gender equality plans.

Keywords: gender equality in academia, work-life balance, gender equality plan, choice feminism, leaking pipeline

1. Introduction

The aim of this paper is to analyse recent changes in gender equality policies in academia, such as the introduction of the gender equality plan requirement from the European Commission (Bencivenga et al., 2017). The key question is what kind of gender narrative is really found within the recent changes, which are often attributed to the gender mainstreaming framework. This paper intends to discuss and problematise this assumption from a theoretical point of view, while also correlating university gender policies with the actual level of well-being experienced by women in academia.

The literature on gender in academia has focused on the "new" strategy of gender mainstreaming from two perspectives: some scholars have traced it to the category of neoliberalism (Bacchi and Eveline, 2010), while others have rejected this interpretation (Walby, 2011). This paper tries to propose a four-part alternative, taking the last option as a starting point: while neoliberalism and gender mainstreaming remain different frameworks, the work-life balance approach is added, which in a partially broader sense has also been defined as "specific equality policies" (Verloo, 2016). This approach considers motherhood as the main obstacle to women's careers and offers tools that address this particular issue, which will be discussed in more detail in section 3. Finally, the capabilities approach has also been considered, since important policy tools have been derived from it, first with regard to human development and finally also with regard to academia (Addabbo, Lanzi and Picchio, 2010).

The theoretical framework of this paper is meant to be critical of all four approaches, starting from the consideration that gender policies, all of them, do not seem to have improved the situation particularly yet and that universities continues to show not only a lack of equality, but also a general decline in the well-being of university staff (Murgia and Poggio, 2019). Note that the key concepts recalled here are the same ones that have been running through feminist literature for several years: well-being, agency, fatigue, are fundamental words to describe women's lived experience and are therefore essential starting points to approach the issue of equality policies from a situated (and feminist) point of view (Smith, 2005).

2. Living in a neoliberal academia

The academic context in which the new gender policy measures have been introduced is characterised by what scholars call the 'neo-liberal university'. This section attempts to briefly and roughly summarise the social and political changes that have characterised the European university in the last thirty years, and the academic reflection that has been created on them in the meantime. Universities are a particular form of gendered

organisations (Acker, 1990), in which gender is continuously constructed through gendered practices that are indistinguishable, at first glance, from normal working rules. Gendered practices are based on discourses, norms, languages, actions and so on, and universities narratively construct the figure of the ideal academic (Lund, 2015). Although this figure may no longer be identified exclusively with a man, his characteristics have fundamental repercussions on gender. One of these characteristics is excellence, which young researchers should strive for (Bozzon et al., 2019). Unlike in the past, the boundaries of the competition for excellence have widened, creating a truly international and global arena, although differences in the countries of origin of researchers persist. Women struggle with this standard of excellence, not because they are not excellent, of course, but because the very mechanisms of academia, where power is handed down through homophily, prevent them from growing and improving. Another characteristic is mobility, which is no longer just a spatial condition but has now taken on existential connotations, as Raffini (2017) rightly points out. Many scholars have given the name of neoliberal university to these and other changes and have analysed (Riegraf and Weber, 2017) how the consequences are detrimental to gender equality, also defining this type of academy as a greedy institution (Currie and Thiele, 2000).

According to Verloo (2016), gender measures can be classified into three main categories: equal treatment, specific equality policies and gender mainstreaming. It should be added that each of these categories relates differently to the concepts listed above, such as excellence, precariousness, productivity, well-being and so on, and does so in a less dichotomous way than simply making a good/bad verdict. However, a classification of university gender policies has not yet been proposed, which is what this working hypothesis aims to do.

3. Four approaches to gender equality measures

Four approaches can be identified in the way gender policies are implemented: gender mainstreaming, work-life balance, capabilities and neo-liberalism approach. In particular, it is interesting to analyse these four approaches through two specific lenses: choice (or agency) and well-being.

The gender mainstreaming approach implies a strong focus on the accountability of the institution, which, following the dictates of the UN and the European Union, shall carefully consider each choice from the point of view of its effects on gender equality. It is an approach where the institution is proactive regarding change (also called “fixing the institution”), however gender mainstreaming in practice has often been linked to the second considered approach, neoliberalism. In this case, the focus is on individual responsibility: it is no longer the institution that has to change, but the woman (“fixing the woman”), who thanks to the measures provided by equality policies can succeed in closing the gap that was the cause of inequality. The concept of empowerment is strongly emphasised and there is a clear preference for non-family models of care, promoting the idea of a neutral and agender worker who outsources family management to the market.

The third approach is work-life balance, which echoes the traditional gender policies of the 1970s and 1980s when the problem of the leaking pipeline was identified almost exclusively with motherhood and the tools to achieve gender equality were providing women with various types of work-life balance measures. However, while sociological research has shown that the early stages of women's academic careers are characterised by feelings of insecurity and stress, and that the pursuit of a career is seen as delusional and impossible to combine with motherhood (Murgia and Poggio, 2019), even where appropriate measures are put in place for so-called conciliation, these fail to alleviate the fatigue of double presence. In addition, there are emotional problems resulting from choices considered deviant from gender norm, such as not being the main caregiver within the family.

Lastly, the capability (or well-being) approach was developed by the Centre for Public Policy Analysis at the University of Modena (Addabbo, Lanzi and Picchio, 2010) and is inspired by Sen and Nussbaum's theories, focusing on the well-being of the individual and the creation of a list of capabilities in a participatory way, jointly with the target group. It is the only approach in which individual well-being is explicitly taken into account.

Although well-being and agency are key terms in equality policies, in practice the four approaches described above do not implement them in the same way. Agency here is defined as the possibility to carry out certain roles, in a context where there is a tension between the mainstreaming narrative of equality and the narrative that sees women as the main caregivers, and where the refusal of certain standards of productivity or certain tasks is expressed by the choice to take a step back because of the fatigue of managing everything (not only

logistically, but also emotionally and psychologically). In other words, sometimes the problem lies not so much in offering tools, which taken on their own can be effective and valid, but rather in the overall context, resulting in a narrative that doesn't take into account the fatigue and discomfort that women in academia feel when they have to balance their caring role, their professional role, what university gender policies expect from them, and their personal aspirations and desires.

It is precisely for this reason that over the last few years choice has become a polemical target of reflection on the so-called choice feminism (Ferguson, 2010), even within the university context of work-life balance policies, showing how many conditions (fatigue, stress and mental charge, etc.) can play a major role in diminishing the effectiveness of gender equality and personal agency.

4. Conclusion

In conclusion, although recent innovations such as Gender Equality Plan push in the direction of offering an increasing number of measures for gender equality, a more thoughtful reflection on the effects and narratives proposed by these policies is due. It also represents an opportunity to encourage participatory processes that acknowledge individual agency, giving the opportunity to express needs and desires. However, the very idea of need also requires further discussion: as Fraser and Nussbaum rightly pointed out, we are often faced with the inconsistency of the concept of "need" as an expression of the authenticity of the subject.

Policies inspired by the idea of institutional accountability risk ultimately hinging on the neo-liberal concept of individual responsibility, which results in a process of self-absolution that continues to celebrate fatigue as a paradigm of productivity.

The real challenge, I believe, is to avoid relapsing into an approach to care that has so far reproduced either a family-type system centred on the figure of the mother and her availability, or a system based on market services and the availability of the worker, in this case, for the institution.

The hope is for a policy that is able to consider care as a social, cultural, economic and legal problem to be tackled as soon as possible: not only the care for others, but also the care for oneself and for one's personal well-being. The proposals coming from various parts of the feminist world (Fraser, 2013; The Care Collective, 2020), especially in the context of the global pandemic emergency, are pushing in this direction, and make urgent and no longer negotiable to reflect on changing the models of care and work in our society.

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Success Factor Negotiation: The Covid-19 Pandemic as an Opportunity Structure

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Abstract: This work-in-progress paper provides insight into the conception and the empirical procedure within the project "Success Factor Negotiation – The Covid-19 pandemic as an Opportunity Structure for (Re)Shaping the Negotiation Culture in Couple Relationships." The project analyses couple relationships in Germany with regard to techniques of negotiation established during the pandemic and their impact on participation and career opportunities for women. The crisis in the field of (institutional) childcare that accompanied the pandemic has created a special situation in which everyday practices, routines, and rituals that often prevailed in everyday life had to be radically changed or redesigned. This in turn created an "opportunity structure" for negotiation in the private sphere of couple relationships. The negotiation skills developed and negotiation strategies and techniques practiced during this period of upheaval can become a decisive lever for the "post-Corona period" in order to question existing role models and the social orders associated with them. Studies dealing with conflict of compatibility in the Covid-19 pandemic to date have been primarily based on quantitative methods and paint a contradictory picture of how couples have dealt with the tension between family work and employment. This is where the project comes in, using a qualitative approach to investigate the role that negotiations played in dealing with the changed conditions in the wake of the Covid-19 pandemic. In doing so, we add a new dimension to previous studies by not only examining the results of conflict of compatibility and role distribution, but also shedding light on how these conflicts have been resolved. Thereby, we identify negotiation patterns that influence the extent of egalitarian distribution of family work on the one hand and the assertion of career ambitions on the other hand.

Keywords: negotiation, couple relationships, conflicts of compatibility, Covid-19

1. Research objective and research questions

The Covid-19 pandemic, and in particular, the crisis in the field of (institutional) childcare that accompanied the pandemic created a special situation in which everyday practices, routines, and rituals had to be radically changed or redesigned. This led to an extraordinary situation, which we understand as an “opportunity structure” for negotiation in the private sphere of couple relationships. The negotiation skills developed and practiced during this period of upheaval can become a decisive lever for the “post-Corona period” in order to question existing role models and the social orders associated with them. In this context, the main research objective of the project “Success Factor Negotiation – The Covid-19 pandemic as an Opportunity Structure” is to examine couple relationships in Germany with regard to techniques of negotiation established during the pandemic and their impact on career opportunities for women.

Specifically, the following research questions will be addressed:

- How did negotiations between couples take place, and to what extent did they perpetuate or change existing everyday practices and routines?
- To what extent was the use of negotiation in the couple context associated with an assertion of career goals?
- Which negotiation techniques have a career-enhancing or career-inhibiting effect?
- In what ways were contextual factors such as the opportunity for home office, a system-relevant occupation, the employer's attitude, or parental leave experiences brought into the negotiation as a resource?
- To what extent do the negotiation experiences of the crisis situation affect the organization of everyday life in a post-pandemic world?

2. Current research situation and conceptual background

Since the beginning of the Corona crisis, various studies have been conducted on gender asymmetries with regard to the division of care work arising in the wake of the lockdown and the related closure of institutional

childcare in Germany. Overall, these studies conclude that women bore the brunt of family work during the crisis, for example, were more likely to reduce their working hours (Holst et al., 2021; Bujard et al., 2020; Hipp and Bünning, 2021; Kohlrausch and Zucco, 2020; Zoch et al., 2021; Zoch et al., 2020). However, this finding does not yet allow an answer to the questions of whether this is a return to traditional role patterns, whether the still prevailing role patterns are merely being perpetuated, or whether there are signs of a de-traditionalization in the course of the Covid-19 pandemic, although in absolute terms the main burden of family work was borne by women before and during the pandemic. A closer look at the respective studies reveals a contradictory picture. For example, the Covid-19 pandemic is definitely accompanied by an increased participation of men in family work. Men have experienced a higher absolute increase in time spent on family work (Bujard et al., 2020, p. 38; Globisch and Osiander, 2020). Also the share of fathers who report taking on the greater part of caregiving increased from 6 to 12 percent during the first lockdown (Kohlrausch and Zucco, 2020, p. 6). Hipp and Bünning observe a more egalitarian distribution of family work during the lockdown in spring of 2020, but this distribution declined over time (Hipp and Bünning, 2021, p. 667). Household-specific structures such as short-time work or the possibility of home office for only one partner ensured that the latter took over a larger share of family work (Hipp and Bünning, 2021, p. 668). Furthermore, a higher level of education and less traditional role models were associated with a lower proportion of constellations in which only mothers took care of the children (Zoch et al., 2020, p. 12, p. 18). This contrasts with findings that even women working in system-relevant occupations and not having the option of home office, often took on the care of younger children alone (Zoch et al., 2020, p. 16). Moreover, it was found that the number of couples who shared care work equally decreased (Kohlrausch und Zucco, 2020, p. 7; Hank und Steinbach, 2021, p. 104).

Overall, it remains an open question how and why couples prioritized family work and career in a certain way and how they used their respective situations (e.g. home-office, system-relevant occupation) as a negotiating resource. This is where our project comes in. It follows the tradition of sociological research concerning couple relationships that works with the terms negotiation and negotiation process. These concepts are used to describe and explain how agreements (e.g. with regard to the intrafamilial division of tasks) are reached, and, in general, joint life is organized (e.g. Willen and Stein, 2017; Peukert, 2015). Specifically, the project uses the concept of the negotiated order and the dialectical approach of Anselm Strauss as a theoretical framework. Strauss assumed that social orders are created through negotiation, i.e. through both explicit argumentation and non-verbal utterances (gazes, gestures, mini-actions), and that these negotiations are in turn contingent to specific structural conditions (Strauss, 1978). Our project uses his dialectical perspective, but in contrast to previous research it focuses more on explicit negotiation. Explicit negotiation can be defined as a “back-and-forth communication designed to reach an agreement when you and the other side have some interests that are shared and others that are opposed” (Fisher et al., 1991, p. xvii).

Negotiation in this narrower sense has also been studied by Evertsson and Nyman with a view to intrafamilial distribution of roles and tasks. The researchers identified explicit negotiation in particular situations "in which the taken-for-granted character of everyday life was questioned and no given or established routines or rituals applied or existed" (Evertsson and Nyman, 2009, p. 42). It is precisely such disruptions that are characteristic of the Corona crisis. For this reason, the Covid-19 pandemic created a unique field situation for the research question addressed here, namely the extent to which explicit negotiation is relevant for the intrafamilial distribution of roles and tasks and thus also for the assertion of partners' career ambitions.

3. Research design and methods

Previous studies addressing the conflict of reconciling career and care responsibilities during the Covid-19 pandemic have been primarily based on quantitative methods. As mentioned before, they focus on the outcome perspective and paint a contradictory picture of how couples dealt with the tension between family work and employment. In doing so, they fail to answer the question of how conflicts of compatibility and role distribution have been resolved. We use a qualitative approach to investigate how and why certain decisions were made and to shed light on the role that negotiations played in dealing with the changed conditions in the wake of the Covid-19 pandemic.

The sample is composed of heterosexual or homosexual couples in which both partners pursue a career ambition and work fulltime. By focusing on full-time workers, we can rule out effects of a (re)traditionalization of role models caused by parenthood and focus on the influence of the Covid-19 pandemic on role distribution and its negotiation. These dual-career couples have at least one child of kindergarten or elementary school age. The

comparison between mixed- and same-sex couples allows for a deeper understanding of the meaning of gender-specific role models and gender-typical negotiation behaviour.

In the first phase of the research process, intensive interviews are conducted with the couples, interviewing them both individually and in pairs. The interview transcripts are evaluated using qualitative and quantitative content analysis procedures. Possible categories are:

- What was the negotiation setting like? When, where, how often and how long was the negotiation? Who initiated the negotiation?
- What were the specific "issues" of the negotiation?
- Which common and which different interests were involved?
- Which contextual factors were brought into the negotiation as a resource?
- What was the negotiation process like? Were negotiation strategies pursued? Can specific negotiation tactics be named?
- What were the results of the negotiations? Who was "successful" in the negotiations; who prevailed?
- To what extent do negotiation experiences and results shape current everyday life?

The interview material will also be used to develop role plays for the second phase of the research process. Role plays as a method of change research in action science (Nagler, 2009, p. 140) are a less common instrument in qualitative social research. Yet, they are extraordinary helpful when it comes to analysing conflict behaviour as well as role ambiguity in a holistic way (Nagler, 2009; Stahlke, 2001).

In concluding group discussions, the role plays are reflected upon by the participants. These discussions are recorded and also evaluated by content analysis. They will provide information on the extent to which the role plays have led to a reflection on one's own (gender-typical) role behaviour. All in all, the project thus employs an innovative mix of methods.

4. Expected results and benefits of the project

In conducting this empirical research, we add a new dimension to previous studies by not only examining the results of conflict of compatibility and role distribution, but also shedding light on *how* these conflicts have been resolved. In doing so, we identify negotiation patterns that influence the extent of egalitarian distribution of family work as well as the assertion of career ambitions.

The results are to serve for a broader understanding of the interplay between career development and gender-specific role and negotiation patterns. They are also planned to provide a starting point for designing concrete training and development programs to enable women (and men) to enhance their negotiation competencies. These are essential in order to address career ambitions or a desire for compatibility with the employer on the one hand and to arrive at a fair distribution of care work in the private sphere on the other. In this sense, the project contributes both to a broader theoretical understanding of gender-effects on role distribution and negotiation and practical application with regard to the empowerment of women. Finally, by an innovative mix of methods, including intensive interviews, group discussions, and role plays, as a method of action science research we aim at contributing to the further development of qualitative empirical social research.

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Gender Stereotype and Influencers' Role in Genderless Fashion

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Abstract: This paper aims to investigate the role of gender segmentation in the fashion industry through the generations, particularly among the Millenials and Z Generation. Although, in fact, it has been stated that the perception of gender roles and gender stereotypes are less strong for these generations, contributions regarding the fashion sector are still few. For this purpose, focus groups were conducted with young Italian fashion consumers who contributed to a discussion on gender stereotype in fashion, genderless fashion, and the role of Instagram influencers in the genderless fashion. Research is currently ongoing, but results are expected in line with Laughlin (2016) who affirmed that these generations are less sensitive to gender segmentation and with De Veirman (De Veirman et al., 2017) to the extent that influencers can raise awareness much more than other forms of persuasion. This study provides a guidance for scholars about consumer perception of genderless fashion and current findings provide brand managers and advertising practitioners with empirical data about the role of social media influencers in genderless fashion and Instagram marketing.

Keywords: genderless, genderless fashion, fashion marketing, influencers marketing, brand management.

1. Introduction

Fashion and gender representation have always been linked by a close relationship as clothes have been used throughout the ages as a communication tool to impart information about oneself. However, in recent years we have observed certain transformations in terms of gender, in society as well as in fashion. Indeed, identity is perceived in an increasingly less binary way and the fashion industry has begun to adapt to this to such an extend as to start a process of deconstruction of gender stereotypes, dedicating collections to genderless or integrating gender fluid garments in their offer. This paper aims to investigate the role of gender segmentation in the fashion industry through the Millenials and Generation Z and to explore the role that Instagram influencers and celebrities play in the process of deconstructing stereotypes and creating consensus around genderless fashion.

Prior research has stated that the perception of gender roles and gender stereotypes is less strong for these generations (Laughlin, 2016) but at the same time they are the ones who have pushed the most towards this social change (Coggiola and Coste-Manière, 2021) and are most influenced by social media, especially by Instagram, in making impulse purchases (Djafarova. and Bowes, 2021).

The above considerations give rise to our research propositions, which are:

- RP1: Millenials and Generation Z do not have gender stereotypes;
- RP2: Choosing their clothing style Millenials and Generation Z are not gender sensitive;
- RP3: Influencers/celebrities induce a positive perception of a genderless collection;
- RP4: Product posts of influencers/celebrities are more effective than fashion brands in inducing a purchase of a genderless garment.

For this purpose, a qualitative research approach was used. The case considers Italian fashion consumers born between 1989-2001 with the aim to examine the new generations' perception regarding gender stereotypes and gender-neutral fashion (validating RP1 and RP2) and to explore if Instagram influencers/celebrities have a positive impact on the perception of the genderless collection and in the purchase intention of Millenials and Generation Z (validating RP3 and RP4). More specifically semi-structured focus groups were conducted. The attendees of two separate sessions were eleven students from bachelor or master's degree programs. The schedule consisted of six semi-structured questions, followed by a general participant discussion and to capture true answers, participants were shown images of fashion brand accounts or influencers and celebrities accounts with genderless garments.

The first question asking to express agreement/disagreement with respect to statements on gender equality was used to set up the conversation and at the same time explore the position of the participants on the general gender issue and gender stereotypes (Stavrianea et al., 2021). Regarding this first issue all the participants

expressed absolute agreement, showing that they do not have gender stereotypes related to work or personal environment. In the next set of questions regarding gender issue in fashion, participants were asked what they wanted to express through the style of clothing (Entwistle, 2015), how they wanted to see themselves in terms of clothing style (Barnard, 2014), how they wanted to appear in the eyes of others (Lamb & Kallal, 1992) and which items they wore most frequently (Workman & Caldwell, 2007).

Most of the responses about the expression of themselves through the clothing style were "expression of a status", "sensuality", "emotions", "elegance", "personality", "sportiness". Defining their clothing style, answers included: "trendy", "classic", "casual", "sporty", "feminine and masculine at the same time"; while regarding appearance in the eyes of others, most were disinterested, except those who had defined their style as elegant or sporty, who said they also wanted to be perceived as such. Inside the scripts there are quotes like:

> *"I would like to communicate to others the expression of myself, I am very sporty in life so I would like it to be noticed." (Participant K);*
>
> *"I look at quality, I reduce fast fashion purchases, I even prefer second-hand or vintage purchases, therefore elegant ... also based on quality. I haven't much wondered how I should look" (Participant I);*
>
> *"I have elements of femininity and masculinity in my style, I would like to be seen this way." (Participant H);*

The most worn item of clothing is unquestionably jeans (6 participants), followed by the hoodie (3 participants) and shirts (2 participants).

Subsequently with reference to the set of questions on genderless fashion perception and influencers 'role, it was asked if and possibly why an influencer or a celebrity increases the propensity to buy products of the brand they are promoting (Chetioui, et al., 2020; Hu et al.,2020; Casalò et al., 2020) and if and why they interacted more easily through likes and comments with an Instagram account of a fashion brand or with that of a celebrity or influencer (Nandagiri & Philip, 2018).

Previous studies suggest that consumers are very exposed to celebrity Instagram marketing, even more than traditional marketing channels (Masuda et al., 2022) and this is especially true for social media users belonging to generation Z (Djafarova & Bowes, 2021). Participants recognized the influence of influencers on the purchase, giving them credibility and expertise (5 participants), and towards whom they have a feeling of congruence (3); someone stated not to the point of making an impulsive purchase (2) and one of the participants declared "*less than previously"* (Participant A) attributing this change of habit to the pandemic and to a new attention to sustainability.

Despite the literature on the new generations and their propension to create relations with influencers (Pate and Adams, 2013) and the emerging role of the influencer in the purchasing process, they all declared a greater propensity for interacting with fashion brand accounts (mostly luxury and sports brands) both to find information and to connect with the online store. Delving into quotations someone affirmed that "*the brand can be an influencer itself"* (Participant F) and about the brand account *"thanks to the store function, with re-link to the product, it can facilitate an impulsive purchase, if the price is affordable, you buy it directly"* (Participant I).

After images from Instagram posts with genderless fashion garments were shown, a spontaneous conversation arose around the posts of the influencers who overshadowed those of the brands. Trying to investigate the motivation, some of the participants attributed it to the predominant colors in the images, they associated a greyness and a monotonousness to the theme of neutrality which, however, does not stimulate visually; others to the identification of the brand as a catalyst for profits while they recognized celebrities and influencers as having a role of sensitizers, but only if credible and respected.

> *"Maybe because the focus is on neutrality ... the genderless line as named has a background that does not represent any color." (Participant F)*
>
> *"It is necessary to understand if the goal of companies is to sell their product to people who do not find themselves in the body in which they were born or if they have a greater, more human goal, that is to get out of the canons of men's and women's fashion." (Participant A)*

Another aspect that emerged was related to the idea of freedom that was seen more in the posts of influencers and celebrities, probably because knowing the personality of the subject, the choice of the genderless garment was more authentic and spontaneous also because it was subject to criticism.

> *"I saw an ideal of freedom more in the photos of influencers than of brands, I don't know why." (Participant K)*
>
> *[Answering participant K] "Perhaps because brands do it solely for profit rather than to pursue a real ideal; as happens for greenwashing". (Participant I)*
>
> *"Clothing is a way of expressing oneself ... I think that this revolution is a way of dressing based on freedom, if we think at the beginning of the 1900s or even earlier, women's and men's fashion were strictly divided, a woman could not dress in a jacket, trousers and tie, she couldn't do it, it was really discriminated against, now it can be done, influencers normalize this thing to extend genderless fashion, it's a very positive thing, because everyone is able to express themselves without constraints." (Participant I)*

Most of the attendees said that the images shown featured different items of clothing they would buy and most of the products they indicated were worn by influencers and celebrities (7 participants).

Table 1: Participants' purchase interest

Tailleur worn by Clara Del Vigne (influencer)	n.3 participants
Tailleur worn by Madame(influencer)	n.2 participants
Dress worn by Achille Lauro(influencer)	n.1 participant
Some garments of Maneskin's outfit (influencer)	n.1 participant
Riley Studio' salopette (brand)	n.1 participant
Riley Studio' shirts (brand)	n.1 participant
Gucci's trousers (brand)	n.1 participant
Stella McCartney's trousers(brand)	n.1 participant

Source: The authors

Research is currently ongoing, however from preliminary findings, results show that the new generations are less sensitive to gender segmentation in line with Laughlin (2016) and RP1 and RP2 were confirmed, as also RP3 and RP4, in line with De Veirman (De Veirman et al., 2017) who affirmed that influencers could raise awareness much more than other forms of persuasion. However, a surprising finding, not aligned with the previous literature, is one concerning the greater propensity of 'interaction with the account of a brand rather than an influencer's, which on the one hand confirms that users use Instagram mostly to search for information, while on the other hand it questions the sense of community that should develop around the influencers.

In the process of deconstruction of gender stereotypes, the influencer has a more significant role, and creates greater consensus of a brand since it is perceived as more authentic, because it is felt to be congruent (Chetioui et al., 2020) and with which more empathy and identification is established (Hu et al., 2020), that is, it is subject to criticism like each of us.

> *"The others talked about it? many years ago, […], if you bought clothes in a department store that did not conform to your gender, you were seen as strange, but if I like it and I'm free to do it, why not."(Participant. G)*

The contribution of this study is twofold: it contributes to the limited research regarding the stereotypic perceptions of the new generations providing a guidance to scholars about their perception of genderless fashion and providing brand managers and advertising practitioners empirical data about the role of Instagram influencers and celebrities in fashion and genderless issue.

The themes that emerged spontaneously such as sustainability and second-hand fashion demonstrate a new sensitivity and attention on the part of the new generations which cannot be neglected.

The fashion houses that should involve congruent influencers and celebrities in their promotional campaigns as they are better known than the models and generate a feeling of greater authenticity, spontaneity, and congruence. On the other hand, influencers should try to establish more interactions with the community and wear and promote clothes and brands linked to their real inclinations and interests.

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