

# A Competency Framework for Teachers to Support Gender-Fair and Inclusive Teaching

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**Abstract:** This paper presents the development of a competency framework aimed at supporting gender-fair and inclusive teaching. Drawing on research on educational justice, gender bias, and intersectionality, fairness is conceptualised as a multidimensional professional competence encompassing distributive, procedural, and interactional justice. The framework was developed through an iterative process combining literature review and collaborative work with researchers, teacher educators, teachers, and policy makers from several European countries. Initially structured around five domains of teachers' work, it was subsequently expanded to include four additional domains addressing professional learning, institutional context, societal awareness, and external partnerships. By articulating fairness across classroom practices and broader educational environments, the framework provides a structured basis for research, teacher education, and the development of assessment tools grounded in authentic professional situations.

**Keywords:** Gender fairness, Inclusive teaching, Teacher competences, Competency framework, Equity in education

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## 1. Introduction

Gender equality is a central objective of contemporary education systems, yet research consistently shows that gender bias persists in everyday teaching practices. From early schooling onwards, teachers' expectations, interactions, and feedback can reproduce gendered norms and contribute to unequal learning experiences and educational trajectories, particularly in domains such as STEM (Sadker, 2009). International reports confirm that these inequalities are not merely individual but are embedded in classroom practices and school cultures (e.g. Evagorou et al., 2024). Large-scale studies highlight persistent gender gaps in confidence, participation, and aspirations, pointing to the role of teaching practices in shaping pupils' perceptions of what is possible or appropriate for them (OECD, 2019; United Nations Educational Scientific and Cultural Organization, 2021). As a result, promoting gender-fair education requires more than formal equality; it calls for teachers' active engagement in recognising and counteracting stereotypes and power relations in daily professional situations.

Research further shows that gender bias in teaching is often implicit and situational, emerging in moments that require professional judgment rather than the application of explicit rules (Doyle et al., 2024; Gillborn, 2015). Feminist and intersectional perspectives emphasise that gender intersects with other dimensions such as socio-economic background, migration, disability, or gender identity, producing complex and differentiated forms of inequality in educational contexts (Bešić, 2020; Crenshaw, 1989). Despite broad agreement on the importance of gender-fair and inclusive teaching, there is still limited consensus on how the corresponding professional competences should be defined, structured, and operationalised. Existing approaches often focus on attitudes or general principles, without capturing how teachers mobilise knowledge, skills, and dispositions in concrete classroom situations (Banks & McGee Banks, 2019; Darling-Hammond, 2017). Addressing this gap, the present study proposes a competency framework for teachers and teacher educators that conceptualises gender-fair and inclusive teaching as a multidimensional professional competence, providing a structured basis for research, professional learning, and the development of assessment tools grounded in fair educational practice.

### 1.1 Fairness and Justice in Education

Fairness and justice are foundational principles of high-quality education systems, shaping not only how learning opportunities are distributed but also how students experience learning. Educational justice extends beyond equal access and encompasses equity in teaching practices, curriculum content, assessment procedures, and students' broader learning environments (Gewirtz & Cribb, 2002). A large body of research shows that structural and instructional inequities can influence students' academic outcomes, self-concept, and long-term opportunities, particularly for learners from marginalized backgrounds (Ladson-Billings, 2006).

Contemporary perspectives emphasize that fairness in education cannot be understood solely through distributive models—concerned with how resources and opportunities are allocated—but must also address relational and recognitional dimensions of justice, which focus on how individuals and groups are valued, respected, and included in educational processes. Studies have documented how biases in teaching, curricula, and assessment can reproduce systemic inequalities related to gender, socio-economic background, race/ethnicity, disability, or migration status (Gillborn, 2015). These disparities highlight the need for educational practices that actively challenge exclusionary norms and promote inclusive, identity-affirming learning environments.

## **1.2 Gender Bias and Intersectionality in Teaching**

Gender bias remains a persistent challenge in education, shaping how teachers perceive students and distribute learning opportunities. A substantial body of research shows that teachers may hold implicit gendered beliefs about students' abilities, participation, or behaviour, often without conscious intent (Bian et al., 2017). These biases influence instructional decisions such as the types of questions asked, the feedback provided, and the expectations communicated, thereby reinforcing gendered patterns of confidence, performance, and identity development, particularly in STEM subjects (Tomasetto et al., 2011; Wang & Degol, 2017). For instance, girls are more likely to receive process-oriented praise, while boys more often receive ability-focused feedback, subtly shaping perceptions of competence and potential.

However, considering gender in isolation risks oversimplifying students' experiences. Intersectionality, first articulated by Crenshaw (1989), highlights how gender intersects with other social categories such as ethnicity, socioeconomic status, migration background, disability, or language to structure educational opportunities and constraints. Educational research consistently shows that students located at the intersection of multiple marginalized identities are more exposed to bias, stereotyping, and exclusion (Burgess et al., 2012; Gillborn, 2015). In classroom practice, intersectional gender bias may appear through unequal expectations, biased interpretations of behaviour, limited representations in teaching materials, or the absence of diverse scientific role models (Becker & Nilsson, 2021; Evagorou et al., 2024; Gilliam, 2016). Such mechanisms affect not only academic outcomes but also students' sense of belonging, motivation, and identity construction in science education (Avraamidou, 2022; Hazari et al., 2010).

Adopting an intersectional perspective therefore shifts the focus from treating "boys and girls equally" to intentionally designing learning environments in which all learners can participate meaningfully, develop positive identities, and thrive. In this sense, intersectional gender-aware teaching contributes both to the improvement of everyday pedagogical practices and to broader goals of equity, inclusion, and social justice in education.

## **1.3 Teacher Competences for Equitable and Inclusive Education**

Research across teacher education consistently highlights that developing equitable and inclusive learning environments requires a broad set of professional competences. According to Darling-Hammond et al (2017), effective teacher development involves equipping educators with the capacity to adopt reflective, research-informed practices that attend to issues of equity and diversity. In a complementary perspective, Darling-Hammond (2017) shows that the most successful international teacher education systems explicitly cultivate teachers' ability to respond to social inequalities through pedagogical judgment, professional autonomy, and ethical engagement.

Recent empirical studies focus more specifically on defining and measuring the competences associated with inclusive practice. Vantieghem et al (2023), for example, propose a structure in which inclusive competence comprises interconnected dimensions of knowledge, attitudes, and skills, closely aligned with the Knowledge Skills Abilities (KSA) model. This model conceptualises teacher competence as the integration of what teachers know about diversity and learning, how they enact this knowledge in practice, and how they regulate their own beliefs and dispositions. Complementing this perspective, Gülsün et al. (2023) demonstrate that teachers' attitudes toward inclusion and their sense of self-efficacy play a central role in shaping their day-to-day classroom behaviours, suggesting that dispositions are inseparable from professional competence.

Further evidence underscores the importance of emotional and relational dimensions. In a systematic review, Calandri et al. (2025) identify emotional competence as a foundational component of inclusive teaching, arguing that teachers' capacity to regulate emotions, show empathy, and build supportive relationships is essential for creating equitable classrooms. These findings resonate with broader policy analyses. Varsik and Gorochovsij (2023) stress that intersectional perspectives are increasingly necessary within education systems, as students'

experiences are shaped by overlapping markers such as gender, socio-economic background, disability, and migration status. This perspective aligns with research in inclusive education showing that single-category approaches to inequality are insufficient. As Bešić (2020) argues, intersectionality offers a valuable conceptual framework for understanding how multiple identities interact to produce distinct forms of marginalisation, and for guiding teachers toward practices that respond to this complexity.

#### **1.4 Problem Statement**

Although existing research underscores the importance of developing teachers' knowledge, skills, and dispositions for gender-fair and inclusive education, there is still limited consensus on how these competences should be formally defined, structured, and assessed. Current approaches often address isolated dimensions of inclusion, without offering a coherent framework that captures the complexity of teachers' professional judgment in diverse classroom situations. This gap makes it difficult to support teacher learning in a systematic way and to evaluate how educators navigate situations involving bias, diversity, or intersecting forms of disadvantage. These limitations call for the development of a clear competency framework that operationalises the KSA components relevant to equitable teaching. Responding to this need, the present study proposes to define a structured competency framework.

## **2. Methodology**

### **2.1 Step 1. Initial Construction of the Competency Framework**

The initial competency framework was developed through a collaborative process involving researchers, teacher educators, and experienced school teachers from several European countries, including Cyprus, France, Italy, and Luxembourg, who were all members of the Erasmus+ FIT project. This project focuses on promoting fair and inclusive teaching practices, particularly in STEM education, by supporting teachers in identifying and addressing biases in their everyday professional activities. Bringing together complementary expertise in educational research, teacher training, and classroom practice ensured that the early framework reflected both theoretical perspectives on fairness and the realities of diverse school contexts.

The construction process followed an iterative qualitative methodology. Participants first reviewed international literature on fairness, inclusion, and teacher professionalism to identify central concepts and recurring dimensions. In a series of working sessions, they compared interpretations of these concepts, aligned terminology, and analysed examples of fairness-related challenges encountered in different educational systems. This process helped delineate the main areas in which fairness emerges in teachers' work and guided the operationalisation of these areas into professional competences.

Draft competence statements and preliminary behavioural indicators were formulated through group discussion and refined across successive iterations. The resulting version was collectively reviewed to ensure conceptual clarity, internal coherence, and applicability across countries. This initial framework formed the basis for the subsequent refinement phase involving policy makers and teacher trainers.

### **2.2 Step 2. Refinement Through two Focus Groups with Policy Makers and Teacher Trainers**

To complement the initial construction phase, two online focus groups were conducted using an identical facilitation protocol: one involving nine teacher trainers and another involving ten policy makers. The purpose of these workshops was to further examine the structure and formulation of the preliminary competency framework by collecting additional expert insights from professionals engaged in teacher education and policy development.

Each focus group followed a 90-minute structured sequence of activities facilitated through the MIRO collaborative platform. After providing informed consent, participants engaged in an initial ice-breaking task in which they identified key notions associated with gender bias in teaching, helping to anchor the discussion in their professional experiences. They were then presented with the five preliminary competency domains developed in Step 1 and invited to review and prioritise them. A voting activity enabled participants to indicate which domains they perceived as most central to preventing gender bias in education.

In a subsequent phase, participants were encouraged to propose additions or adjustments to the existing domains. The workshop design allowed them to contribute freely using digital sticky notes, organise emerging ideas visually, and discuss potential refinements. Finally, participants completed an activity aimed at identifying concrete behaviours or abilities associated with each domain. All contributions were collected within MIRO, anonymised, and exported for qualitative analysis in accordance with GDPR requirements. Following Creswell's

approach (2007), the data from the two groups were combined because their perspectives converged and separating them would not enhance the analytic interpretation. This choice was made for reasons of clarity, analytical consistency, and to avoid overinterpreting variations that were not central to the purpose of the study. The synthesis presented below thus reflects the combined insights of both expert groups.

### 3. Results

#### 3.1 Initial Structure of the Competency Framework

The expert discussions led to the articulation of five domains that structure the initial competency framework (see Figure 1). Each domain captures a specific dimension of fairness in teaching and is defined through a set of concrete competencies describing the knowledge, skills, and behaviours expected from teachers.

- The **Preparation** domain (12 competencies) focuses on the anticipatory aspects of fair teaching. It includes competencies such as designing lessons that avoid stereotypical representations and selecting examples or materials that support diverse learners. This domain highlights fairness as something that begins before classroom interaction.
- The **Teaching** domain (9 competencies) concerns the dynamics of classroom life. Competencies in this area emphasise equitable participation, balanced communication, and the capacity to respond appropriately to biased comments or exclusionary behaviours. For example, teachers are expected to distribute attention fairly among pupils and to structure group work in ways that avoid reinforcing gendered or cultural divisions.
- The **Assessment** domain (4 competencies) addresses fairness in evaluating pupils' work. Competencies include using transparent and objective criteria, being aware of the potential influence of stereotypes on performance, and providing feedback that supports all learners. These elements reflect the experts' view that assessment practices play a central role in either mitigating or amplifying inequalities.
- The **Awareness and Counselling** domain (10 competencies) refers to teachers' guidance roles and their interactions with pupils and families. Associated competencies include supporting pupils' aspirations without reinforcing gendered or cultural expectations and recognising how identity factors shape pupils' experiences. Teachers are expected to adopt a non-judgmental, supportive posture in their relational work.
- Finally, the **School Life** domain (7 competencies) extends fairness to the wider school environment. It includes competencies such as contributing to an inclusive climate, managing conflicts to prevent discrimination, and collaborating with colleagues to ensure consistent, equitable practices across the school. This domain underscores that fairness is also embedded in institutional routines and collective responsibility.

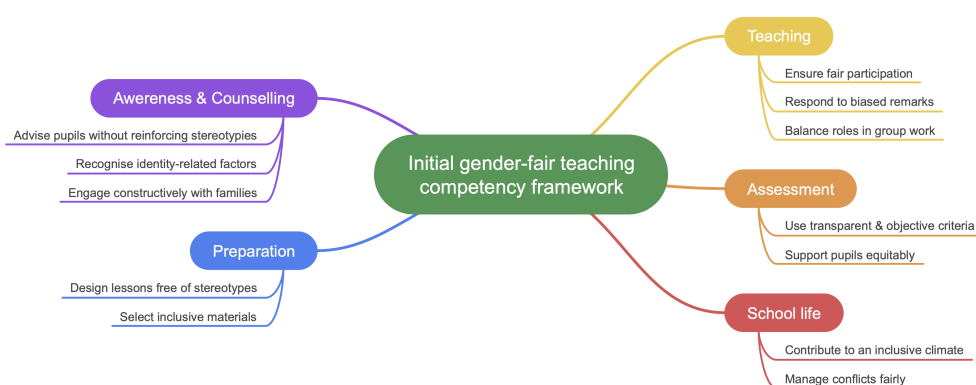


Figure 1: Overview of the initial competency framework for teachers to support gender-fair and inclusive practices

### 3.2 Contributions from the Focus Groups

#### 3.2.1 *New competency domains identified through the focus groups*

Across both focus groups, participants acknowledged the relevance of the five pre-existing competency domains (Preparation, Teaching, Assessment, Counselling & Awareness, School Life), but they unanimously stressed that these domains do not fully capture the breadth of competences required to support gender-fair and inclusive teaching. Several additional domains emerged, reflecting systemic, organisational, and societal dimensions that shape teachers' capacity to prevent gender bias.

The first domain concerns **school leadership and institutional support**. Participants emphasised that teachers' individual efforts are constrained or enabled by the school's organisational culture. They highlighted the need for school leaders who are knowledgeable about gender equity, capable of monitoring discriminatory practices, and able to implement whole-school strategies (e.g., data-driven evaluation of gender policies, partnerships with local authorities or NGOs). This domain extends the focus of "School life" toward a more structural understanding of fairness as dependent on institutional governance.

A second domain relates to **teachers' initial and continuing training**, including exposure to gender studies, feminist and intersectional pedagogies, and reflective practice. Participants insisted that fairness-oriented teaching requires specific theoretical grounding, such as understanding stereotype threat, expectancy-value models, or intersectional mechanisms of discrimination. They further noted that knowledge must go hand in hand with practical training in diverse teaching methods, collaborative lesson planning, and tools for self-assessment.

A third domain concerns the **ability to engage with broader societal issues** affecting learners. Participants argued that teachers need to understand how inequalities are produced and reproduced outside school, and how these dynamics influence pupils' aspirations, self-confidence, and sense of belonging (e.g., awareness of gender-based violence, discriminatory public spaces, media stereotypes). This extends fairness from classroom practice to a holistic understanding of pupils' lived experiences.

Finally, a transversal domain emerged around **external partnerships and networks**. Participants noted the importance of collaborating with civil society organisations, universities, local authorities, and role models to offer pupils concrete exposure to inclusive scientific careers and to diversify their horizons, particularly for girls and minority groups in STEAM.

These new domains complement the original framework by situating fairness not only in classroom interactions and pedagogical design, but also in teachers' professional environment, their ongoing learning, and the social ecosystems in which education takes place.

#### 3.2.2 *New abilities added within the five original domains*

Within **Preparation**, participants emphasised the ability to select and design inclusive teaching materials, ensuring that examples, textbooks, and resources do not reproduce gender or intersectional stereotypes. This includes critically reviewing materials, supplementing biased content, and integrating diverse perspectives into curricula. They also stressed the need to anticipate stereotype threat when designing tasks, adapting instructions or contexts to avoid disadvantaging particular groups.

In **Teaching**, new abilities highlight classroom management and interactional fairness. These include the ability to monitor and balance participation (e.g., equal speaking time, rotation of roles), use non-gendered language, and intervene promptly in discriminatory incidents. Participants also insisted on designing lessons that actively engage diverse learning styles and offer equitable opportunities for participation.

Within **Assessment**, participants added abilities such as constructing gender-neutral assessments, avoiding biased feedback patterns, and adapting evaluation conditions to reduce anxiety or stereotype threat. They also stressed the importance of using objective criteria and systematically checking for unintended differential impacts on learners.

For **Counselling & Awareness**, new abilities included communicating with families about gender stereotypes and their effects, supporting pupils' self-efficacy (e.g., explaining multiple predictors of success), and offering guidance free from gendered expectations. Participants also emphasised the necessity of being available for discussion, recognising pupils' emotions, and rebuilding self-confidence when needed.

Finally, in **School life**, participants stressed conflict management skills, the creation of safe and respectful learning environments, and the ability to intervene in cases of bullying or exclusion. They also highlighted the importance of ensuring gender equity in all school spaces (e.g., playgrounds, corridors) and extracurricular activities, as well as contributing to whole-school initiatives addressing violence or discrimination.

### *3.2.3 Abilities associated with the new domains*

For the domain of **school leadership and institutional support**, abilities include advocating for gender-equity policies, using data to monitor progress, and organising school-wide professional development. Teachers also stressed the ability to identify and collaborate with school leaders committed to gender equity.

In the domain of **teacher education and professional learning**, abilities include engaging in continuous reflective practice, identifying one's own biases, updating knowledge on gender and intersectionality, and applying research-informed pedagogical approaches (e.g., lesson studies, collaborative planning).

For the domain concerning **societal and intersectional awareness**, participants emphasised abilities such as recognising intersecting forms of discrimination, understanding socio-cultural dynamics influencing pupils' aspirations, and addressing sensitive issues (gender identity, racism, violence) with accuracy and empathy.

Finally, regarding **external partnerships**, abilities include identifying relevant organisations, integrating role models into lessons, organising outreach activities, and maintaining communication channels with external actors to support inclusive educational pathways.

## **3.3 Overall Structure of the Expanded Competency Framework**

Building on these insights, we propose an expanded competency framework that retains the five original domains but enriches them with 1. additional abilities identified by teacher trainers and policy makers, and 2. four new overarching domains that reflect structural, organisational, and societal dimensions of fair teaching. The revised framework thus captures both the micro-level practices implemented within the classroom and the macro-level conditions that support or hinder gender equity in education.

The updated structure consists of nine domains:

- **Preparation:** designing learning environments that anticipate diverse needs and actively counter stereotypes, including the selection of inclusive resources and the prevention of stereotype threat.
- **Teaching:** managing classroom interactions in equitable ways, ensuring balanced participation, responding constructively to biased remarks, and integrating diverse representations and role models.
- **Assessment:** designing transparent, gender-neutral assessments; monitoring feedback patterns; and adapting evaluation conditions to promote equity and reduce anxiety or differential treatment.
- **Counselling & Awareness:** supporting pupils' aspirations without reinforcing stereotypes, rebuilding self-confidence when needed, engaging families constructively, and addressing identity-related issues (e.g., gender identity, intersecting inequalities).
- **School Life:** contributing to a safe, inclusive school climate, managing conflicts fairly, intervening in discrimination or bullying, and ensuring equity across shared spaces and extracurricular activities.
- **Professional Learning & Reflexivity** (new): engaging in continuous training on gender and intersectionality, identifying personal biases, and integrating research-based pedagogies into practice.
- **Institutional & Leadership Environment** (new): understanding how school governance, leadership commitment, data monitoring, and whole-school initiatives shape teachers' capacity to promote fairness; collaborating with school leaders to implement gender-equity policies.
- **Societal & Intersectional Awareness** (new): recognising how societal inequalities and intersecting forms of discrimination influence pupils' experiences, analysing stereotypes and media messages, and addressing sensitive issues (e.g., gender-based violence, racism) in informed and age-appropriate ways.
- **External Partnerships & Networks** (new): collaborating with external actors (NGOs, universities, local authorities, diverse role models), organising awareness activities, and supporting pupils' engagement with inclusive academic and professional pathways.



**Figure 2: Overview of the expanded competency framework for teachers to support gender-fair and inclusive practices**

These domains articulate a more holistic view of gender-fair teaching. They recognise that fairness is not only enacted in the classroom but also supported by teachers' professional development, institutional structures, and the wider socio-cultural environment. This updated framework therefore provides a more comprehensive and operational basis for both the refinement of the SJT and the development of future teacher training programmes (see Figure 2).

#### 4. Discussion

Several domains identified in the framework echo existing conceptualisations of inclusive teacher competence. Vantieghem et al. (2023) highlight that teachers' knowledge, beliefs and actions jointly shape their ability to create equitable learning environments, a view that aligns with the domains of Preparation, Teaching, Assessment, Counselling and School Life. These domains articulate how teachers anticipate diverse needs, manage interactions in fair ways, design equitable assessments and support pupils' aspirations without reinforcing stereotypes. By specifying these areas and linking them to concrete behavioural indicators, the framework translates broad notions of fairness into actionable components of professional practice.

The findings also confirm that inclusive and gender-fair teaching relies strongly on dispositions and relational competences. Research shows that attitudes towards inclusion and teachers' self-efficacy influence how they engage with diverse learners (Gülsün et al., 2023). Emotional and relational competences, such as empathy and the ability to build trust, are also central, as noted by Calandri et al. (2025). These insights are reflected in the

competences associated with guidance, emotional support, and the maintenance of a safe and non-discriminatory school climate. The framework therefore, expands the definition of teacher competence by integrating dimensions that extend beyond cognitive or technical expertise.

A key contribution of the study lies in the four additional domains introduced by policy makers and teacher trainers: Professional Learning and Reflexivity, Institutional and Leadership Environment, Societal and Intersectional Awareness, and External Partnerships and Networks. Their inclusion is consistent with literature in multicultural and diversity education, which stresses that equitable teaching depends on institutional culture and structural conditions as much as individual practices (Banks & McGee Banks, 2019). These domains align the framework with perspectives that view gender equity not only as a classroom issue but also as a systemic one shaped by leadership commitment, organisational norms and collaboration with external actors.

Embedding intersectional awareness within the framework is also in line with research that emphasises the need to understand how gender interacts with other identity markers, such as socioeconomic status, migration background or disability (Varsik & Goročovskij, 2023; Bešić, 2020). Participants underscored that teachers must be able to interpret pupils' experiences in light of wider societal norms, media representations and issues such as gender-based violence. In doing so, the framework bridges the literature on inclusive education with scholarship specifically focused on gender fairness.

The study naturally presents some limitations. The framework was developed with experts from a restricted number of European countries and within projects focused specifically on gender and STEM. Further research should explore its relevance in other cultural and disciplinary contexts and examine its empirical structure. Quantitative validation and studies linking the domains to observable teaching practices or student outcomes would provide important next steps, in line with existing work on measuring inclusive competence (Vantieghe et al., 2023).

## **5. Conclusion**

This study aimed to develop and refine a competency framework that supports teachers in promoting gender-fair and inclusive teaching. By combining prior literature with the insights of researchers, teacher educators and policy makers, the framework clarifies how gender fairness is enacted across different dimensions of teachers' work. It therefore contributes to ongoing discussions on how the Knowledge Skills Abilities (KSA) model can be applied to inclusion and gender equity in education.

Beyond its conceptual contribution, the framework has practical implications for teacher education. Its structure provides a basis for designing professional learning programmes that intentionally address gender-fair competences at different stages of teachers' careers. This is coherent with evidence showing that effective professional development needs to be sustained, practice-oriented and grounded in research (Darling-Hammond et al., 2017). The framework can support the development of assessment tools that reflect authentic professional situations and help teachers analyse their reasoning and decision-making. The study also offers a foundation for further dialogue and collective learning among teachers, school leaders and policy makers committed to advancing gender fairness in education.

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**Ethics Declaration:** The research reported in this paper did not require formal ethical clearance. The study involved adult participants (teachers and educational experts) who took part on a voluntary basis. No sensitive personal data were collected, and all responses were gathered anonymously, in compliance with applicable data protection and GDPR regulations. Participants were informed about the purpose of the study and their right to withdraw at any time. The data were used exclusively for research purposes.

**AI Declaration:** An AI-based language model (ChatGPT 5.2, OpenAI) was used during the preparation of this manuscript exclusively for language-related support, including spelling correction and the reformulation of selected sentences to improve clarity and readability in English. The AI tool did not contribute to the development of the research design, data analysis, interpretation of results, or the generation of original

scientific content. All revisions were reviewed, validated, and integrated by the authors, who retain full responsibility for the content of the manuscript.

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