The Ethics and Identification of Combat Leadership: Navigating High-risk Research in a High-tension Global Landscape

Jakub Stříbrný
University of Defence, Brno, Czechia

Jakub.stribrny2@unob.cz

Abstract: Combat leadership defined as the ability to inspire and coordinate teams in high-pressure, high-importance, and high-threat environments is a critically important but under-discussed topic in leadership studies. While conventional military leadership is well-documented, specific data from active combat zones remains scarce. This research gap is primarily due to the ethical imperative that researchers ought not interfere with or compromise the safety of personnel in "in extremis" situations where lives are at immediate risk. To address this gap, this paper suggests a framework for predicting and developing resilient combat leaders by evaluating personnel in high-stress training environments by combining complex psychophysiological evaluations. However, as global political tensions rise, the need for scientifically grounded methods to identify and develop leaders capable of managing these high-risk environments has never been more urgent.

Keywords: Combat leadership, Ethics, High-risk research, Paratroopers, Trust

1. Introduction

The modern battlefield can provide all the machines, inventions, tactics, or sheer numerical superiority, yet the commander remains the most vital element of warfare. When soldiers are commanded by a capable leader, their chances of survival and mission success increase exponentially. Consequently, the education and identification of such leaders are not merely academic concerns but also critical necessities that directly impact the lives of soldiers and the integrity of the army (Ambrozová et al., 2016; Ullrich, 2022).

Leadership in a combat environment is distinct from "classic" or civilian leadership primarily due to its unique, "in extremis" nature (Beyer, 2010; Dixon & Weeks, 2017). While a civilian leader manages organisational goals, a military commander eventually finds themselves in a position where they must make life-or-death decisions for themselves, their subordinates, and their colleagues. This environment necessitates a continuous cycle of preparation, in which leaders must minimise potential dangers, internalise objectives from higher-ups, and find the inner motivation to inspire their team in the face of immediate threats (Ullrich, 2017).

A truly competent leader is followed because subordinates want to follow him, not because they are forced to. This dynamic is built on trust, where the leader stands as a member of the team rather than its executioner. However, becoming such a quality leader is a lifelong process of growth, incremental steps, and learning from failure FM22-100 2004). It is not a skill that can be acquired overnight or through theory alone. It must be practised and applied in the field through the entirety of one's life.

Yet, as global geopolitical tensions rise, the luxury of time for "natural" leadership emergence is shrinking. There is an urgent need for scientifically grounded methods to identify and develop leaders capable of managing high-risk environments before they are placed in them. This presents a significant research paradox: the data required to validate these identification methods is most abundant in active combat zones, yet the ethical imperative of non-interference dictates that researchers must not compromise the safety of personnel in situations where lives are at risk.

2. The Research Gap: Ethical and Operational Barriers

Despite a distinct lack of empirical research on active combat leadership and a scarcity of publications providing a clear conceptual framework, some literature offers parameters for the term. Combat leadership mentioned in Hard Knocks states: "*that it is the art of getting soldiers to do willingly what instinct and society have programmed them not to do: to place themselves at mortal risk and to kill others (with greater emphasis on the former concern) while engaged in battle" (Faulkner, 2012)*. While several military publications address leadership broadly, the vast majority treat the concept through the lens of peacetime administration or garrison management rather than analysing combat leadership (Kirkland, 1990; Wagstaff, 2019).

An interesting approach in the literature comes through the concept of *in extremis*. Term in extremis comes from Latin, which means "*shortly before death*". It refers to situations where it is believed that lives are at risk. It is rarely present in ordinary civilian life. In extremis situations are commonly found in hazardous occupations such as law enforcement, military service, and firefighting (Cook et al., 2007; Dixon et al., 2019).

Thomas Kolditz's 2007 book of the same name offers an insightful examination of in extremis Leadership. ¨His work explores the concept of "*extremis leadership*"*(Kolditz, 2007)*, which refers to leadership in extreme, high-risk stress situations. The situations described can lead to severe injuries or have more serious consequences, such as loss of life. Kolditz draws on his experience as a Military leader and researcher to provide insights and strategies for leadership in these challenging situations. Kolditz also emphasises the importance of situational awareness and understanding the context in which an extreme situation arises. It emphasises the need for leaders to anticipate and adapt to changing circumstances and thoroughly understand the risks and potential consequences of their decisions. The book explores the psychological and emotional factors that can influence leadership in extreme situations and lays the groundwork for practical strategies and techniques outlined in the following sections (Kolditz, 2007).

Combat leadership demands the ability to inspire and direct others in high-threat, high-pressure environments. In these volatile situations, leaders must make split-second tactical and strategic decisions, adapting instantly to changing circumstances while managing scarce resources to achieve the objective. Beyond executing the mission, they carry the vital responsibility of maintaining troop morale, ensuring every soldier remains motivated and prepared for the extreme stresses of battle.

The scarcity of empirical research on combat leadership is rooted in the ethical and practical impossibility of conducting scientific studies in an active war zone without endangering troops and the mission. Consequently, most military leadership literature relies on non-combat samples, leaving the specific dynamics of under-fire command understudied (Bass et al., 2003; Beyer et al., 2010). Beyer talks about two groups of officers. Ones with combat experience with evidence, such as a combat badge awarded for direct conflict with the enemy (combat leader) or combat experience with no direct battle with the enemy (noncombat leader) (Beyer, 2010). One of the few projects that examines this topic by taking the post-combat experience.

Another author who delves into this topic refers to the “essence” of Combat Leadership as a person who addresses his soldiers with the words ''Follow Me'' (Yellin, 2008). This book relates to a study from 1949 (Stouffer et al., 1949), in which they asked combat veterans who were in the Mediterranean during World War II to describe officer leadership practices that gave them confidence in their leader and gave them courage (Stouffer et al., 1949; Wansink et al., 2008).

3. Methodological Strategies for Identification

Because researchers cannot ethically or safely conduct experiments in the middle of a real battlefield, this paper relies on a documentary and theoretical analysis. This means instead of running a live lab test, the study carefully gathers, filters, and connects existing high-quality scientific research on combat stress. By using a strict search process to select papers, the methodology ensures the review is highly structured, unbiased, and scientifically rigorous, turning a collection of published data into a reliable new framework for leadership development.

When attempting to identify effective leadership traits in extreme environments, the first methodological strategy involves questioning soldiers after they have experienced actual combat (Stergiou et al., 2024). However, this approach brings several flaws that compromise the reliability of the collected data. First, soldiers are often deeply hesitant to speak honestly or vulnerably about the raw, traumatic realities of their combat experiences (Col et al., 2004; Grady et al., 2016; Sørensen et al., 2026). Second, the timing of the data collection introduces severe methodological risks. Interviewing soldiers directly after a high-stress event yields highly questionable data due to immediate emotional shock, while waiting to interview them after some time has passed introduces significant memory distortion (Col et al., 2004; Di Nota et al., 2021; Porter & Powell, 2024). Over time, retrospective bias frequently creeps in, as soldiers naturally attempt to rewrite the narrative to make themselves or their leaders appear more heroic and successful than they were in the heat of the moment.

Alternatively, researchers can conduct controlled experiments in non-combat environments, such as simulation facilities and training academies, to standardise stressors and eliminate retrospective recall delay (Schilder et al., 2024; Steinborn et al., 2022). By testing subjects immediately after a tactical simulation, investigators can capture highly accurate, untainted data before memory decays. However, this strategy introduces an issue regarding validity: participants ultimately know their lives are not truly in jeopardy, artificial training stress cannot fully replicate the primal psychological toll and life-altering stakes of real-world warfare

To expand upon the methodological framework, the deployment of granular and complex data collection pipelines is essential for capturing the multi-dimensional attributes of soldiers operating in high-stakes environments. Longitudinal designs, such as the 5-year prospective framework (Olinover et al., 2023), provide a robust model for tracking personnel from pre-recruitment appraisal through real-life leadership execution.

Rather than relying on static or isolated metrics, this methodology highlights the value of synthesising diverse data streams—including cognitive testing, structured behavioural interviews, peer-derived leadership emergence tracking, and supervisor performance appraisals across progressive operational contexts. Integrating such comprehensive tracking protocols presents a viable strategy for predicting adaptability and performance limits within extreme, high-risk organisations.

Ultimately, optimising these predictive models necessitates capturing how personnel handle acute physiological and psychological burdens under pressure. This can be achieved by deploying complex psychophysiological testing (Sládek et al., 2021; Ullrich et al., 2020) on paratroopers, who routinely face life-threatening stress as an inherent component of their specialised training. Rather than treating psychological evaluation and physiological data as separate silos, an integrated, real-time testing paradigm offers a holistic window into soldiers and their resilience (Perna et al., 2020; Simmons et al., 2013; Werner E et al., 2012). By mapping a candidate's baseline personality and cognitive traits combined with heart rate variability, high-stakes organisations can identify the precise psychological profiles and physiological thresholds that predict optimal stress resilience, emotional regulation, and decisive leadership execution under extreme operational pressure (Reynard et al., 2011; Thayer et al., 2012; Thayer et al., 2006).

4. Practical Implications for Leadership Development

Studying the intense stress faced by paratroopers during training provides an interesting way to get closer to understanding how people react to the life-threatening realities of actual combat (Clemente-Suárez et al., 2017). Because it is nearly impossible to safely replicate the true chaos of a battlefield, tracking elite airborne soldiers who perform high-risk jumps daily offers a rare, controlled look at how the human body and mind handle extreme fear (Jamro et al., 2025). By mapping a candidate's baseline personality and cognitive traits combined with heart rate variability, high-stakes organisations can identify the precise psychological profiles and physiological thresholds that predict optimal stress resilience, emotional regulation, and decisive leadership execution under extreme operational pressure (Minassian et al., 2014). Ultimately, using these paratrooper models allows leadership development programmes to spot the key markers of elite performance, ensuring future commanders have the natural mental sharpness and calmness needed to lead their troops through the worst of war.

5. Conclusion

When facing the dangers of war, soldiers mostly rely on the trust and loyalty of their comrades (Sweeney et al., 2009). The life-or-death situations they face every day require a deep and unwavering commitment to their leader and one another. Trust becomes the foundation of their collective strength, allowing them to overcome differences and fears (Mooradian et al., 2006; Sweeney, 2007). Soldiers have to place absolute faith in their leader's guidance, while the leader protects and directs the troops with honour and integrity. This mutual trust and loyalty forge an unbreakable bond that fuels their shared purpose, enabling them to confront the crucible of war with unwavering determination.

Study on: *„Do soldiers reevaluate trust in their leaders before combat operations?* " (Sweeney, 2010) found that 75% of the soldiers reconsidered their trust in their leaders, and 41% reconsidered their trust to a moderate to a great extent. The measure of central tendency for this distribution was somewhat moderate on the assessment scale, with a mean of 4.55 and a median of 3.0(Sweeney, 2010). As is in the exhibit from Combat Leadership Lessons for all Leaders *(Mjr. Crandall et al, 2006)*.

Table 1: Combat Leadership Lessons for all Leaders. Source (Mjr. Crandall et al, 2006)

Lesson 1	Trust is the key to the exercise leadership.
Lesson 2	Competence is king in the development of trust in extreme situations such as combat.
Lesson 3	Lead by caring.
Lesson 4	Competence and character determine a leader's credibility.
Lesson 5	Leading by example enhances credibility and provides subordinates direction.

This principle aligns with the concept that "*leaders eat last*" (Sinek, 2014) which presumes that fostering an organisational culture rooted in trust and psychological safety is key to long-term success. Sinek argues that leaders who actively prioritise the well-being of their subordinates cultivate a baseline of deep cooperation and resilience. Specifically, in Chapter 4, "*The Courage to Do the Right Thing*," (Sinek, 2014) explores the ethical

imperatives of leadership, demonstrating that exceptional commanders and executives possess the moral fortitude to make agonising decisions and defend core values, even when confronted with intense adversity or institutional opposition.

Ultimately, this paper shows that the dangerous stress paratroopers face during training is a possible, safe and effective way to study how people react in life-threatening situations. By looking at research on personality, cognitive functions, and heart rate tracking, we can create a model to spot people who handle stress well. When we combine these bodies and mind measurements with established ideas about leadership and trust, it gives high-stakes organisations an interesting point of view. Using these methods ensures that future commanders have the natural calmness and mental strength needed to keep their teams together and make smart choices under pressure.

In conclusion, optimising leadership development within high-stakes organisations requires a shift from static evaluations to dynamic, integrated psychophysiological tracking. By utilising the intense, life-threatening stressors of paratrooper training as a controlled proxy for actual combat, researchers can effectively observe how human systems bend and adapt under extreme duress. Combining baseline personality and cognitive testing with real-time heart rate variability data allows organisations to identify the precise markers that predict resilient decision-making and emotional control. Ultimately, fostering this deep psychological safety and trust ensures that future commanders possess both the autonomic stability and moral fortitude required to guide their troops through the intense friction of war.

Ethics Declaration: Because this paper is primarily a theoretical and conceptual exploration of the frameworks surrounding combat leadership, it did not involve any human participants, animal testing, or empirical data collection. Consequently, formal ethical clearance and institutional approval were not required for the research presented in this paper.

AI Declaration: As English is the author's second language, an artificial intelligence tool was utilised during the drafting of this paper to assist with language processing. Specifically, the AI was used to translate concepts from the author's native language, improve sentence structure, and correct grammatical phrasing.

All conceptual arguments, theoretical frameworks, and academic syntheses regarding combat leadership remain entirely the original work of the author. The material produced by the AI tool was used as a stylistic and linguistic aid to ensure clarity, academic rigour, and readability for conference participants.

References

Ambrozová, E., Koleňák, J., Ullrich, D., & Pokorný, V. (2016). Kognitivní management (2nd ed.). Key Publishing.

Bass, B., Avolio, B., Jung, D., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. Journal of Applied Psychology, 88(2), 207–218. https://doi.org/10.1037/0021-9010.88.2.207

Beyer, P. (2010). Authentic leadership In-extremis: A study of Combat leadership. Capella University.

Clemente-Suárez, V. J., Robles-Pérez, J. J., & Fernández-Lucas, J. (2017). Psychophysiological response in parachute jumps, the effect of experience and type of jump. Physiology and Behavior, 179, 178–183. https://doi.org/10.1016/j.physbeh.2017.06.006

Col, L., Dave, G., & Siddle, B. K. (2004). Critical Incident Amnesia: The Physiological Basis and the Implications of Memory Loss During Extreme Survival Stress Situations.

Cook, Ch., Webb, Ch., & Vansickle, J. (2007). Developing and Mentoring "In Extremis" Leaders Lessons Learned from Special Operations. Air & Space Power Jurnal, 34(2), 67–77.

Di Nota, P. M., Stoliker, B. E., Vaughan, A. D., Andersen, J. P., & Anderson, G. S. (2021). Stress and memory: a systematic state-of-the-art review with evidence-gathering recommendations for police. Policing, 44(1), 1–17. https://doi.org/10.1108/PIJPSM-06-2020-0093

Dixon, D., & Weeks, M. (2017). Leading in extremis situations: How can leaders improve? In Advanced Sciences and Technologies for Security Applications (pp. 251–275). Springer. https://doi.org/10.1007/978-3-319-55059-6_14

Dixon, D., Weeks, M., Citadel, T., Boland, R., & Gaskin, J. (2019). In Extremis Leadership: A Study of the Effects in Different Contexts. American Journal of Management, 19(3), 35. https://doi.org/10.33423/ajm.v19i3.2188

Faulkner, R. (2012). The school of hard knocks: Combat leadership in the American Expeditionary Forces (12th ed.). Texas A&M University Press.

Grady, R. H., Butler, B. J., & Loftus, E. F. (2016). What Should Happen After An Officer-Involved Shooting? Memory Concerns in Police Reporting Procedures. In Journal of Applied Research in Memory and Cognition (Vol. 5, Number 3, pp. 246–251). Elsevier Inc. https://doi.org/10.1016/j.jarmac.2016.07.002

Jamro, D., Kociuba, M., Lachowicz, M., Korytko, P., & Zurek, G. (2025). Assessment of Changes in Executive Functions and Attention of Cadets as a Result of Military Parachute Jumping. Brain Sciences, 15(1). https://doi.org/10.3390/brainsci15010085

Kirkland, F. (1990). Combat Leadership styles: Empowerement versus Authoritarism. The US Army War College Quarterly: Parameters, 20(1), 61–72. https://doi.org/10.55540/0031-1723.1560

Kolditz, T. (2007). In extremis Leadership: Leading as if your life depended on it. John Wiley & Sons.

Major Doug Crandall, & Jim Collins. (2006). Leadership Lessons from West Point (1st ed.). Jossey-Bass.

Minassian, A., Geyer, M. A., Baker, D. G., Nievergelt, C. M., O'connor, D. T., & Risbrough, V. B. (2014). Heart rate variability characteristics in a large group of active-duty marines and relationship to posttraumatic stress. Psychosomatic Medicine, 76(4), 292–301. https://doi.org/10.1097/PSY.0000000000000056

Mooradian, T., Renzl, B., & Matzler, K. (2006). Who trusts? Personality, trust and knowledge sharing. Management Learning, 37(4), 523–540. https://doi.org/10.1177/1350507606073424

Olinover, M., Gidron, M., Yarmolovsky, J., Lipschits, O., & Geva, R. (2023). Predicting Leadership Success in Extreme Organizations: A Prospective Study From Pre-Recruitment Through Leading in Real-Life. Journal of Leadership and Organizational Studies, 30(1), 71–89. https://doi.org/10.1177/15480518221117886

Perna, G., Riva, A., Defillo, A., Sangiorgio, E., Nobile, M., & Caldirola, D. (2020). Heart rate variability: Can it serve as a marker of mental health resilience? In Journal of Affective Disorders (Vol. 263, pp. 754–761). Elsevier B.V. https://doi.org/10.1016/j.jad.2019.10.017

Porter, L. E., & Powell, M. (2024). Understanding police officers' experiences of post-shooting interviews: factors influencing account-giving. Journal of Criminal Psychology. https://doi.org/10.1108/JCP-11-2024-0102

Reynard, A., Gevirtz, R., Berlow, R., Brown, M., & Boutelle, K. (2011). Heart rate variability as a marker of self-regulation. Applied Psychophysiology Biofeedback, 36(3), 209–215. https://doi.org/10.1007/s10484-011-9162-1

Schilder, F. P. M., Withagen, F. M., de Weijer, A. D., Bruinsma, B., & Geuze, E. (2024). Examining the applicability of virtual battle space for stress management training in military personnel—A validation study. Stress and Health, 40(6). https://doi.org/10.1002/smi.3475

Simmons, A., & Yoder, L. (2013). Military Resilience: A Concept Analysis. Nursing Forum, 48(1), 17–25. https://doi.org/10.1111/nuf.12007

Sinek, S. (2014). Leaders Eat Last: Why Some Teams Pull Together and Others Don't (1st ed.). Penguin Group.

Sládek, P., Ullrich, D., Lacinová, V., & Melichovský, F. (2021). The Specific Suitable Methods for Developing of Psychophysical Fitness and Decision-Making Skills of Managers. 11(1), 298–302. https://doi.org/10.33543/1101

Sørensen, K. M., Boe, O., & Lund, P. E. (2026). Exploring the combat mindset approach during a major prison riot. Frontiers in Psychology, 17. https://doi.org/10.3389/fpsyg.2026.1738405

Steinborn, M. B., Maximilian, J., S Rodrigues, P. F., R E Brown, S. B., & Passi, T. (2022). Effects of overnight military training and acute battle stress on the cognitive performance of soldiers in simulated urban combat.

Stergiou, M., Aladro-Gonzalvo, A. R., Tornero-Aguilera, J. F., Robles-Pérez, J. J., Fernández-Lucas, J., & Clemente-Suárez, V. J. (2024). Influence of Combat Experience on Psychophysiological and Fine Motor Skill Responses in Air Force Warfighters under Acute Stress. Romanian Journal of Military Medicine, 127(5), 331–340. https://doi.org/10.55453/rjmm.2024.127.5.1

Stouffer, S., Lumsdaine, A., Lumsdaine, M., Williams, R., Smith, M., Janis, I., Star, S., & Cottrell, L. (1949). The American Soldier:Combat and Its Aftermath. Social Psychology in World War II, II, 173–175. https://doi.org/10.1177/000271624926500124

Sweeney, P. (2007). Trust The key to combat leadership. In Leadership lessons from West Point (pp. 252–277). John Wiley & Sons, Inc.

Sweeney, P. (2010). Do soldiers reevaluate trust in their leaders prior to combat operations? Military Psychology, 22(SUPPL. 1). https://doi.org/10.1080/08995601003644312

Sweeney, P., Thompson, V., & Blanton, H. (2009). Trust and Influence in Combat: An Interdependence Model. Ournal of Applied Social Psychology, 39(1), 235–264. https://doi.org/10.1111/j.1559-1816.2008.00437.x

Thayer, J., Åhs, F., Fredrikson, M., Sollers, J., & Wager, T. (2012). A meta-analysis of heart rate variability and neuroimaging studies: Implications for heart rate variability as a marker of stress and health. In Neuroscience and Biobehavioral Reviews (Vol. 36, Number 2, pp. 747–756). https://doi.org/10.1016/j.neubiorev.2011.11.009

Thayer, J., & Sternberg, E. (2006). Beyond heart rate variability: Vagal regulation of allostatic systems. Annals of the New York Academy of Sciences, 1088, 361–372. https://doi.org/10.1196/annals.1366.014

Ullrich, D. (2017). Kompetence velitele - Leadera. UNOB.

Ullrich, D. (2022). Leadership a stres (1st ed.). Powerprint.

Ullrich, D., Sládek, P., Zezula, J., & Trnková, T. (2020). Selected Aspects of Today's Leaders and their Potential Development. 36th IBIMA Conference Proceedings.

U.S. Army Command and General Staff College. Center for Army Leadership (Calif.). (2004). The US Army Leadership field manual (FM 22-100). McGraw-Hill.

Wagstaff, W. A. (2019). Organizing evaluation: Assessing combat leadership quality. Journal of Theoretical Politics, 31(2), 132–155. https://doi.org/10.1177/0951629819833177

Wansink, B., Payne, C., & van Ittersum, K. (2008). Profiling the heroic leader: Empirical lessons from combat-decorated veterans of World War II. Leadership Quarterly, 19(5), 547–555. https://doi.org/10.1016/j.leaqua.2008.07.010

Werner E., & Brendtro L. (2012). Risk, Resilience, and Recovery. Reclaiming Children and Youth, Bloomington, 21(1), 18–22.

Yellin, K. (2008). Battle Exhortation: The Rhetoric of Combat Leadership (Reprint (2011)). University of South Carolina Press.