Unraveling the Interplay Between Self-efficacy and Decision-making in Military Contexts: A Systematic Review

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Abstract

The success of missions and personnel safety is contingent upon the ability to make effective decisions in the dynamic and high-pressure setting of military operations. This systematic review examines the relationship between self-efficacy and decision making in military settings. Six studies meeting inclusion criteria were identified through a rigorous search of electronic databases and hand searches. These studies varied in design, methodology and participant demographics but collectively revealed a significant association between self-efficacy and decision-making effectiveness in military and similar operational settings. Findings consistently showed that higher levels of self-efficacy were linked to improved decision-making outcomes across diverse tasks and scenarios. However, limitations included diverse methodologies and small sample sizes, warranting the need for further longitudinal research with standardised measures. Overall, this review underscores the critical role of self-efficacy in shaping decision-making processes in military operations and the need for more studies to inform training interventions and leadership strategies to optimise military readiness and performance.

Keywords: Self-efficacy, military decision making, operational background, systematic review.

Introduction

Military units and personnel must contend with uncertainty, high-risk situations, time constraints and dynamic conditions while operating at extremely high levels of physical and psychological strain to stay within ethical, legal and strategic bounds. Making decisions quickly and effectively is essential for navigating in such environments. Decision making is a crucial cognitive function that happens frequently in daily life. A decision is a conclusion drawn from a process that should yield the intended outcomes after careful consideration.[1] Furthermore, the process of making decisions is what moves the efforts in the direction of solving a particular issue. It seeks to accomplish ideal action.[1] Operational research laid the foundation for numerous military decision-making models following World War II.[2]

These models were based on economic theories of utility maximisation, which make the following assumptions: (i) users are rational in their choice of actions; (ii) they are sensitive to differences that distinguish the courses of action; and (iii) they are fully informed about all significant courses of action that apply to a given situation.[3] For instance, military personnel employ the Military Decision Making Process (MDMP), a rational-methodological approach, to solve tactical issues and create military strategies.[4] It developed from the Army's historical 'estimating the situation' method since the Revolutionary War.[5]

Understanding the problem, creating and evaluating several courses of action, selecting the optimal course of action and creating an operation plan or sequence for execution are all steps in the structured planning process known as the MDMP. Therefore, when used appropriately, 'it would lead to the better decision based on the given complexity of the situation'.[6] However, the MDMP's time intensiveness and emphasis on linear, rational decision making raises practical questions because it may not always be appropriate in dynamic, time-sensitive military situations, especially under unpredictable combat situations. For example, an unpredictable enemy raises the risk that there would be 'unknowns' during the operation, which may contribute to the MDMP's expectations being inaccurate.[7]

Alternatively, Klein[8] established the Naturalistic Decision-Making model (NDM), which describes

how military operations require 'real-time' decision making under pressure, stress and uncertainty. The NDM was developed in response to the 1988 USS Vincennes incident in which a naval captain cruiser shot down an Iranian passenger plane, thinking it was being attacked by a F-14 fighter jet.[9] Social scientists tried to explain why an experienced, well-trained commander would execute such a wrong decision, and the findings led to the conception of the NMD.[9]

The theory behind NMD postulates that decision-makers in dynamic, high-stake, unstable environments do not have time to think analytically, but their decisions derive from their prior experiences.[10] According to Klein's research on real-world military environments, leaders would deliberate for less than one minute before deciding.[8] Therefore, NDM postulates that training, knowledge, and past experiences would shape the cognitive process of the decision-makers in time-limited and increased uncertain real-war contexts with significant implications of errors.[11] Various perspectives on NDM models have been successfully applied in the military and other organisations over the last 30 years.[12]

Given the time pressure and operations uncertainty, military decision-making is influenced by many psychosocial factors such as stress, training experience, leadership skills, fatigue, personality traits, emotional balance and control, and social factors.[13] The importance of social factors has been documented in military psychology and has shown that they play a crucial role in achieving effective military outcomes.[14] In particular, there is growing evidence that among the most important and pervasive social factors is self-efficacy.[15]

Self-efficacy is people's perception of their ability to perform successfully specific actions in given situations. Self-efficacy is neither a skill nor a personality trait but a perception of how someone mentally perceives his skills to complete a difficult task.[16] Efficacy beliefs are actively shaped by prior experiences and influenced by them.[16,17] The perceived level of self-efficacy impacts motivation and task completion performance.[18] Experience also shapes self-efficacy with comparable circumstances.[19]

Bandura[20] asserts that persons with a high level of self-efficacy in their decision-making skills are better at handling complex decisions. Consequently, efficacy leads to more successful outcomes and better solutions. Self-efficacy relates to a feeling of mastery and control over one's surroundings. Having a high sense of efficacy can help people feel confident and have a positive emotional reaction, which can help them make better decisions in times of crisis.[21]

Bandura proposed the 'belief that complex decision-making is an acquirable skill' (p. 454)[20] to counter this possible detour from making effective decisions. In concordance with this, Bandura warned about decision-making biases from various information sources and feelings.[20] Rather than turning introspective thought to self-doubt and potential cognitive and affective deficiencies, he emphasised that self-efficacy is essential to sustaining concentration on a task and testing multiple options. He promoted inferential reasoning in ambiguous situations, which involves evaluating conclusions based on available data. Metacognitive abilities were critical because they allowed people to concentrate, understand task requirements, evaluate their abilities and modify plans in response to outcomes.[15]

In military psychology, research has indicated that soldiers with high self-efficacy appraisals tend to continue their tasks even under stressful and physically demanding situations.[22] In demanding and unpredictable military operations, perceived self-efficacy is based on previous military experience and conviction in military skills and abilities and is a crucial signal of readiness.[23,24] Recent research has also postulated that military personnel with high self-efficacy may perceive stressful events as a challenge rather than a threat compared to those with lower self-efficacy capacity to handle stressful situations who might experience more adverse emotions, such as anxiety.[25] Self-efficacy is related to effective leadership and collective unit beliefs about combat readiness, motivation and performance.[26,27]

However, despite research documenting benefits, studies assessing decision-making efficiency in military operations concerning self-efficacy have not been reviewed. Given the increasing advocacy for self-efficacy's role in effective decision making, such psychological variables must be reviewed as primary outcome measures and, if possible, in real-world operational contexts. This review aims to systematically assess the influence of self-efficacy on decision-making efficiency within military operations or similar operational contexts. It seeks to fill the gap in existing research by assessing and accumulating research on the impact of self-efficacy on decision-making processes, particularly in high-stress and unpredictable military environments. By analysing relevant literature and potentially incorporating real-world operational data, this study aims to elucidate the role of self-efficacy as a primary psychological factor in shaping decision-making outcomes and informing strategies for enhancing military readiness and performance.

Methods

The guidelines by Siddaway et al.[28] and the Centre for Reviews and Dissemination (CRD) Group[29] were consulted to determine the quality criteria used in this systematic review. Based on these recommendations, the narrative synthesis of results with the tabulation of the data of included studies was used (p. 48).[29]

Searching

A thorough search strategy of electronic bibliographic databases yielded the publications using a list of relevant search terms. Data Bases included Defense Technical Information Center (DTIC), EBSCO Information Services, PsycINFO, PsycARTICLES, Medline (PubMed), Google Scholar and ScienceDirect. Relevant publications and reference lists were also identified through hand searches of journals [Scientific Reports, Military Psychology, Military Medicine, Military Medical Research, Military Operations Research]. The research team came up with search terms during several sessions. The following search terms were combined and paired in different ways: self-efficacy, confidence, social cognition theory, social factors, human factors, decision making, military decision-making, naturalistic decision-making, judgement, performance, training, duty, military, operations, combat, military psychology, aviation, Army, Navy, Air Force.

Selection

Ensuring all essential and relevant articles were included, the inclusion criteria were kept relatively broad. Titles and abstracts were initially included, and if the study was on the military population that concentrated on self-efficacy and seemed to measure decision making, full manuscripts were retrieved for future inspection. Studies on populations, such as pilots in civil aviation who share similar operations with military aviation (e.g., cargo transportation), were also considered. The complete manuscript was retrieved to make an inclusion decision if the titles and abstract did not meet these basic inclusion requirements. The complete manuscripts were then examined, and if the following conditions were satisfied, they were added to the systematic review:

Participants were adults (> 18 years old) who were military personnel, military cadets or civil aviation pilots with similar military operational contexts.

The study measured and reported outcomes on two main psychological variables: self-efficacy and decision making or similar constructs (e.g., measures incorporating decision making as experimental tasks, question items or subscales).

The study clearly described and justified all the information about the potential relationships between self-efficacy and decision making of the studied populations.

The study was available in English full-text version.

Data extraction

Extracted data included year range 2000–2024, participant information (age, military), results (outcome measures, significance), and relevance to the review's aim. To ensure accuracy and reliability, a coauthor independently reviewed each paper.

Quality assessment of included studies

All included studies were subjected to a quality assessment to limit potential bias, allow for comparisons between individual studies, and allow for meaningful conclusions to be drawn. Quality criteria were assessed based on recent recommendations of Protogerou and Hagger[30] for quality assessment of survey research in psychology. Each study was assessed according to the checklist, including 20 quality items in four research domains: Introduction (Rationale); Participants (Sampling); Data (Collection, Analyses, Measures, Results, Discussion); and Ethics—an overall quality score yielded by the equation.[1] Depending on the number of applicable items, scoring cut-offs for an acceptable quality are >75%, >73%, >72% or >70%. Based on these criteria, all studies included were considered of acceptable quality.

$$Overall_{Quality_{Score}} = \frac{Yes_{Scores}}{Total_{Applicable}} x100 \quad [1]$$

Results

The search strategy retrieved 249 articles overall. Afterwards, 38 abstracts were selected based on the title, abstract and keywords. Of those 38 abstracts, 25 were obtained in full-text version. 17 studies were excluded because they did not measure the relationship of the primary outcomes. Two studies were excluded from the final eight because they had a very small sample size (n=6) and needed to report outcome data that it was possible to extract. As a result, six studies (Table 1) were included in this review.

Table 1. Characteristics of included studies (n = 6)

Author, Country, Year of publication	Total (N)	Sample characteristics	Aim	Measurement tools: self-efficacy
Ambrulaitienė, Lithuanian[33]	89	Officers from the Lithuanian ground force. All male. The mean age was 31 yrs. (SD 4.97).	Examining how self-efficacy influence successful military decisions.	Self-efficacy on general scale; self-efficacy in Tactical Leadership Planning (TLP) scale
Boe et al., Norway[35]	141	Military cadets from the Norwegian Military Academy (Army), the Royal Norwegian Naval Academy, and the Royal Norwegian Air Force Academy. 90.2% male, 9.8% female. The mean age was 23.2 years. (SD 2.72).	Investigation of academic self-concept, self-efficacy and military skill acquisition among cadets.	Self-efficacy (SE) scale
Cosenzo et al., USA36	19	Dispatchers at an Emergency Operations Center (EOC). 5 male, 14 female. The mean age was 33.8 years. (19 to 49).	Understanding decision-making processes and self-efficacy in uncertain environments.	Situational Self-efficacy (SSE)
Li et al., China[31]	143	Civil pilots from China Eastern Airlines (CES), with high flight experience. All males. The mean age was 31.36 years. (SD 4.65).	Investigation of self-efficacy's influence on human error among pilots during in-flight missions.	Perceived Professional Self-Efficacy Scale (PPSES) 4 subscales: Adaptation to Situation (AS); Flying Performance (FP); Personal Achievement (PA); Physical State (PS).
Lugo et al., Norway[32]	27	Cyber officer cadets from the Norwegian Defence Cyber Academy 24 male, 3 female. The mean age was 21.7 years. (SD 0.71).	Exploration of self-efficacy and intuitive decision-making styles in cyber defence.	General Self-Efficacy (GSE) scale; Situational Self-efficacy (SSE) scale;
Qiu et al., China[34]	244	Military pilots of a flight brigade with high flight experience. All males. The mean age was 21.99 years. (SD 0.925).	Examining how perseverance and resilience impact pilots' self-efficacy and capacity to handle special flight situations.	Self-efficacy (SE) scale

Measurement tools: decision making	Other measurement tools	Statistical results	Key findings
Military operations evaluation test	-	1. Officers with higher self-efficacy in general and in TLP more often choose successful decisions in specific military tasks (p<.05)	Greater self-efficacy generally leads to more successful decisions in specific operational tasks.
Military skills and abilities: Individual coping capacity (ICC), Cooperation in Difficult Situations (CDS), and Motivation to Achievement (MA).	Academic self-concept (ASC)	1. Higher (ASC) at T1 was associated with higher SE at T2 (R^2 = 0.22, F = 11.16., p <.01), β = 0.26; 2. Higher SE at T2 was associated with higher ICC (R2 = 0.43, F= 11.05., p <.01), β = 0.31, higher CDS (R^2 =0.34, F=7.39, p <.01), β = 0.22, higher MA (R2 =0.35, F=7.41, p <.01), β = 0.19	High self-efficacy beliefs may longitudinally increase military skills and abilities, including decision-making.
Decision making in a realistic multitask environment (time to complete emergency, police and fire calls)	Need for Cognitive Structure (NCS); Ability to Achieve Cognitive Structure (AACS); Cognitive Uncertainty (CU); Emotional Uncertainty (EU)	1. Significant main effects of NCS, AACS, EU, and CU groups on SSE were found: F (1,20.3) = 4.22, p =.05; F (1,20.3) = 6.30, p =.02; F(1,10.79)= 6.83, p=.02; F(1,9.43) = 6.23, p =.03).	High situational self-efficacy scores related to better decision-making outcomes (less time to complete calls); Dispatchers who scored highly on self-efficacy expressed less anxiety about their performance.
Safety Operation Behavior Scale (SOBS), including a subscale: Situation Awareness and Decision-Making (SADM; 7 items).	Utrecht Work Engagement Scale (UWES) Flight experience	1. Self-efficacy (FP) was significantly associated with human error in Situation Awareness and Decision-Making: -.267, p<0.01; 2. Self-efficacy was significantly associated with the SOBS (human error) the total effect was –.358. 3. Work engagement mediated the relationship between self-efficacy and human error; Direct effect -.218. indirect effect -.141; 4. Self-efficacy was more critical for less experienced pilots (β = 0.507) compared to more experienced pilots (β = 0.290).	Higher self-efficacy: a) reduces human error; pilots' self-efficacy of FP influences decision-making during flight operations; b) indirect impact on pilots' human error through work engagement; c) is critical in predicting human error in less experienced pilots.
The cognitive reflection test (CRT) Interoceptive Sensitivity (cardioactive accuracy)	-	1. Situational Self-efficacy and Interoceptive Sensitivity accounted for significant variance in DMS scores (R2 = 0.29, F(2,26) = 4.91, p = 0.008).), β =0.524 2. Interaction between SSE and IS accounted for a significant change in variance in DMS scores (ΔR^2 = 0.101, ΔF(2,26) = 3.819, p = 0.037), β = -0.266, t(27) = 1.954, p = 0.037.	Cyber defence officers with high self-efficacy tend to rely more on intuitive and unaware decision-making, which can impair performance on specific tasks and require deeper reflection.
Test of special flight situation handling capability consisting of three parts (emergency response, decision making and special situation);	Connor Davidson Resilience Scale; Grit Scale, two dimensions: interest and persistence	1. Significant effect of self-efficacy on special situation handling capability through resilience for pilots with high perseverance (β = 0.035, t = 4.13, p < 0.001); (Indirect Effect = 0.08, BootSE = 0.03, 95%CI [0.03, 0.16]).	High persistence scores strengthen the positive impact of self-efficacy on resilience and enhance pilots' capacity to manage special circumstances during flight operations.

Study design

Four studies were cross-sectional,[31–34] while one incorporated experimental methods.[32] Two studies were longitudinal;[35,36] one collected data over three time points (T1, T2, T3) within three years,[35] and the other, a field experiment, within three months.[36]

Participants

As described in Table 1, five studies utilised a military population,[31–33,35,36] while in one study, the population came from civil aviation.[31] The number of participants in each study varied between 19 and 244 (median=115), totalling 663 participants. Of these, only a total of 31 were female. The mean age of all participants was 33.8, ranging from 19 to 49 across studies. Two studies were based in China, two were conducted in Norway, one was undertaken in Lithuania, and the remaining study was conducted in the USA. Additionally, two studies reported average flight experience;[31,34] one study reported that military experience and rank of their military sample were similar to other military academies in NATO without reporting specific statistics,[35] and one study reported other demographic characteristics (e.g., family status).[36] No further specific demographic details were reported in one study.[33]

Measurement tools

As described in Table 1, the included studies reported a variety of research aims and utilised a variety of outcome measures and research designs.[31–36] Self-efficacy was measured using validated self-report measurement tools. Two studies used the Situational Self-Efficacy (SSE) scale,[32,36] while one of these studies used additionally the General Self-Efficacy scale (GSE).[32] Other studies used both the self-efficacy in the General scale to examine the self-efficacy beliefs on specific military tasks and the self-efficacy in the TLP scale measuring perceived capability beliefs in troops leading procedures;[33] the Self-Efficacy scale to examine perceived ability to effectively complete military training and education, which had been developed and validated by the authors;[35] the Self-Efficacy scale to measure the level of participants self-efficacy;[34] and one single study used the Perceived Professional Self-Efficacy Scale (PPSES) a scale specific tailored to pilot's self-efficacy.[31] All included studies reported good psychometric properties of the utilised self-efficacy scales, apart from one study that used a validated measure but failed to report psychometric properties.[36]

Different methodological approaches examined decision making. Three studies examined decision making in specific military tasks.[32–34] Two of the included studies used validated scales that incorporated decision making,[31,35] and one of the included studies assessed decision-making in a real-task operational environment.[36]

More specifically, a study used the Military Operations Evaluation Test of 10 tasks to measure successful and unsuccessful military decision-making.[33] Another included study used the test of special flight situation handling capability consisting of three parts (emergency response, decision making, and special situation), 15 scenarios of special situations with six emerging topics measured for each scenario, including factors influencing the decision-making process and final choices and decisions).[34] Three options were available for each topic: A score of 0 denoted a 'typical wrong choice', a score of 2 denoted the 'best choice', and a score of 1 was assigned to a decision that fell between the two ('typical wrong choice' and 'best choice').

Another study utilised the Cognitive Reflection Test (CRT), a three-question decision-making test.[32] The questions consisted of brief, logical problems with two possible answers: one answer seems 'obvious' and intuitively correct to the participant but is logically incorrect; the other answer is correct but necessitates more thought and inhibits the more 'obvious' primary response tendency. This test, in combination with the Interoceptive sensitivity measured by cardioceptive accuracy, could predict performance on intuition and decision making,[37–39] as reported in Lugo et al.[32]

A study used the Military Skills and Abilities (MSA) scale, comprised of three subscales: Individual coping capacity (ICC), Cooperation in Difficult Situations (CDS) and Motivation to Achievement (MA).[35] Myrseth et al.[40] developed the scale and argued that such factors are crucial for coping and decision making in combat and operational situations. For instance, one question consists of the following statement: 'My ability to make decisions in difficult situations is'. One included study incorporated decision making by using the Safety Operation Behavior Scale (SOBS), consisting of a subscale in Situation Awareness and Decision-Making (SADM; 7 items).[31] This subscale refers to the capacity of pilots to predict and handle unusual or emergencies during flight. The primary focus is on the pilot's awareness of every aspect of the flying environment and his/her efficacy in decision making, risk assessment and feedback modification. Finally, one field study examined decision making in a realistic multitask environment (time to complete emergency, police and fire calls).[36] Other measure scales (e.g., Need for Cognitive Structure [NCS] or Ability to Achieve Cognitive Structure [AACS]) in

the study[36] that played a role in the relationship between self-efficacy and decision making were also included and presented in Table 1 to facilitate the interpretation of the results.

Quantitative analysis and findings

The studies used similar statistical methods to assess the research questions, which were judged to be appropriate for the study designs utilised. Specifically, two studies tested mediation/moderation effects,[31,34] while one applied additional correlational analysis of all critical variables.[31] Two studies utilised hierarchical regression analysis,[32,35] while one applied moderation analysis.[32] Finally, one study used mixed linear model analyses,[36] and one study used Mann-Whitney tests.[33] As presented in Table 1, all studies yielded significant results, while five out of six reported effect sizes.[31,32,34–36] One study additionally reported a good achieved test power.[32] Statistical results and key findings of each study are presented in Table 1.

Discussion

The literature evaluating the influence of self-efficacy on military decision-making is relatively sparse. This systematic review identified only eight studies for inclusion; however, two of these did not provide sufficient detail to be included. The reviewed literature offers empirical support for the hypothesis that self-efficacy and effective decision making are related in military contexts.

Favourable results were observed. Numerous studies examining the relationship between self-efficacy and decision making in operational contexts demonstrate the complexity of this phenomenon. Across various methodologies, designs and participant samples, the consensus emerges that self-efficacy is crucial in shaping decision-making effectiveness in high-pressure environments.

The study conducted by Ambrulaitienė[33] with ground force officers in Lithuania highlights the significance of self-efficacy, specifically in tactical leadership planning, in enabling effective decision making in military tasks. Similarly, Boe et al.[35] show that among military cadets, higher self-efficacy predicts increased coping capacity, cooperation in challenging situations, and motivation to achieve, underscoring its critical role in the acquisition of skills, including decision making.

The relationship between emergency dispatchers' self-efficacy and decision-making outcomes was clarified by Cosenzo et al.,[36] who demonstrated that high self-efficacy scores are associated with improved decision-making performance. Findings suggested that those dispatchers with relatively high self-efficacy scores expressed less emotional uncertainty because they felt less nervous about their performance. Moreover, dispatchers who expressed a strong sense of self-efficacy favoured structure, planning and organisation. These dispatchers followed particular procedures in a sequence of steps to determine outcomes to cope with uncertainty, and they typically finished calls faster than those who did not cope. This additional shows that in operational settings, self-efficacy may play a critical role in decision making, mainly because it facilitates stress and uncertainty management.

More information about the relationship between self-efficacy, perseverance and resilience in pilots is provided by Qiu et al.[34] They find that high perseverance levels reinforce the beneficial effects of self-efficacy on resilience, improving pilots' ability to handle special flight situations effectively. Further support for the significance of self-efficacy in aviation contexts comes from Li et al.,[31] who demonstrate that higher levels of self-efficacy are linked to a lower risk of human error among pilots, especially those with less experience. The authors identified that pilots with high levels of one aspect of self-efficacy, flying performance, significantly influence decision making on human error during flight operations. Additionally, work engagement highlights the motivational component of decision-making performance by partially mediating the relationship between human error and self-efficacy.

Lastly, only one study by Lugo et al.[32] suggests relying only a little on instinctive decision making and self-efficacy in complex tasks where counterintuitive problem-solving is needed, like cyber defence. Based on Klein's conceptualisation,[8] their findings highlight the need for a balanced approach to developing decision-making skills by indicating that high levels of self-efficacy and intuitive decision making may impede performance in such contexts.

Considering all the elements, self-efficacy is critical to successful decision making in operational environments. However, its influence depends on several variables, such as task complexity, experience, operational settings and how other psychosocial variables, such as motivation and resilience, interact with it. These findings support Bandura's theory,[20] asserting that people are better at handling complex judgements when they hold a high degree of self-efficacy in their decision-making abilities, which may produce better solutions and more successful results. These findings also align with similar findings in other domains (e.g., sports),

suggesting that decision-makers with high levels of self-efficacy make better decisions.[41,42]

Additionally, addressing cultural dimensions is critical when defining self-efficacy, especially across different countries. Hofstede's Power Distance Index (PDI) shows that in hierarchical societies (e.g., China with high PDI), self-efficacy might be the confidence to follow established procedures or fulfil roles within a strict hierarchy. In contrast, in more egalitarian cultures (e.g., Norway or the US with lower PDI), self-efficacy could relate to the ability to pursue personal goals and make independent decisions. This distinction affects how self-efficacy contributes to decision making and leadership in these contexts.[43,44] When applying this concept to military contexts, especially in multinational forces, it's essential to understand that a person's perception of their efficacy may depend on their cultural environment, which shapes how they interact with authority and autonomy.

In concordance with self-efficacy, decision making is also influenced by external factors like available resources. Resources, such as time, tools and training, play a crucial role in shaping decisions, and even the most self-efficacious individuals may struggle if these resources are lacking. In high-resource environments, individuals may feel empowered to make more confident decisions, enhancing self-efficacy, whereas resource-poor settings could hinder decision quality regardless of personal confidence.[43,45]

Understanding how self-efficacy interacts with cultural context and available resources for military organisations can lead to more effective training and leadership development. Military leaders in hierarchical cultures may need to focus on building self-efficacy within procedural compliance, while in egalitarian cultures, they may prioritise fostering autonomy and personal initiative. This understanding allows for better resource allocation and leadership strategies considering internal (self-belief) and external (resources) factors.

Although the reviewed studies provide insightful information, several limitations and directions for future research are noted. Firstly, although validated, various measures were used, making it challenging to combine the results of the studies. Further, comparison, interpretation, and meta-analysis of the studies were hindered due to the relatively small number of available studies. The diverse studies' design and small sample sizes, settings, measures and methodological approaches made the findings hard to interpret, thus impeding the generalizability of the findings. These include the requirement for more targeted populations, which will additionally include more females and diverse demographics, the need for long-term research with follow-ups to demonstrate causal links, and the importance of using standardised measures for self-efficacy and decision making that would allow for easier comparisons of the findings. More longitudinal experiments in naturalistic decision-making environments (such as Cosenzo et al.[36]) in diverse military operational contexts would allow for comparable and valuable insights. Such studies should be replicated and extended to gain a comprehensive understanding of this research area.[46]

In conclusion, findings provide some support for the complex nature of self-efficacy and how it relates to decision making in military populations. More research is necessary to gain a more profound knowledge of the complex relationships between self-efficacy and decision making in various operational contexts to improve mission success and personnel's psychological wellbeing. Finally, this review's conclusions may provide valuable implications for operational decision-making processes, leadership strategies and military training. Understanding the critical role of self-efficacy, military organisations can create interventions that increase personnel's beliefs in their abilities to make decisions under pressure and in a dynamic environment. Techniques to support self-efficacy, like manipulation,[47] that can be included in training programs enclose vicarious learning, social persuasion and opportunities for mastery experiences. Leaders can also foster a supportive environment that encourages personnel to develop their self-efficacy and successfully engage in decision making.

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