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Established in 2024, IPME is published annually in multiple languages (English, Spanish, French, and Portuguese), first as a digital article and then at the end of the calendar year as a single print volume. The international military learning community is among the largest and yet least studied educational systems in the world. It employs multidisciplinary scholars at the tops of their fields and educates students who become global security leaders and heads of international armed forces and governments, but we still understand relatively little about it in terms of its unique position within the scholarship of teaching and learning. IPME aims to fill this gap and provide a centralized home for scholarship and reflections on military education in its many forms.

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CONTENTS

IPME 2025

FROM THE EDITORS

Building Bridges for Military Learning

We are excited to publish this second volume of *International Perspectives on Military Education* (IPME), continuing our collective dream as editors to catalyze global dialogue and knowledge sharing on the evolving challenges and best practices in professional military education (PME). Marine Corps University Press has been an amazing editorial partner in this journey, supporting a hybrid publication format that facilitates fresh takes and new ideas on the scholarship of military teaching and learning (MSOTL).

Defense sectors around the world now face an operational and strategic environment characterized as volatile, uncertain, complex, and ambiguous (VUCA), a concept first introduced by the U.S. Army War College about 40 years ago. Today's military missions are debated hotly on social media, U.S. alliances appear in flux, geopolitics are ever-evolving, and disruptive technologies are entirely changing the way our sector engages issues of privacy, security, and knowledge. Our military students, especially as they rise in rank and responsibility, will face more questions than ever about the legitimacy, wisdom, and potential costs of their actions. Are they prepared to operate in this new environment?

Against this backdrop, we consider what is the role for PME? What is our value proposition as educators to support the profession of arms and preparation of current and future military leaders? During the December 2025 MSOTL Forum (cohosted by Marine Corps University and Inter-American Defense College), a member of our editorial team highlighted the bridging function PME can

play to help students move away from the chaos of VUCA (and the fog of war) to greater understanding and a culture of lifelong/career learning.

PME provides five key pillars to sustain this bridge: 1) slowing down (allowing students to "take a knee" from everyday military operations); 2) pushing limits (moving outside comfort zones to think critically); 3) crossing divides (engaging dialogue across common barriers); 4) asking tough questions (challenging soldiers' bent for quick solutions); and 5) sharing lessons (building up MSOTL communities of practice).

The themes published in this second issue of IPME vary widely—touching on wargaming, policymaking, strategic communication, and ethical considerations, among others—but the articles also share some important commonalities. They connect the five PME pillars to help cultivate a culture of learning. Each author advocates slowing down to consider the big picture (and alternative voices), focusing on critical questions, and, ultimately, tracing the most effective pathways to the desired results. Emphasis is on systematic engagement.

In "Using Tactical Decision Games as a Cognitive Assessment and Development Tool," Lieutenant Commander Adam T. Biggs and Dr. Evan D. Anderson highlight the need to consider standardization and sequencing within exercise planning and assessment, eschewing the limits of commonplace dependence on just a few wizened experts.

In "Reason for Victory: The Theoretical Elements of National Security Policy," Andrew L. Stigler advocates explicit theorization and the testing of policy assumptions to avoid falling prey to bias and groupthink.

In "Mission-Critical Communication: A Proposal to Teach Interpersonal Communication Skills at The Basic School," Major Timothy J. Morris assesses a mismatch of expectations between study areas and expected outcomes. He highlights how offering targeted communication classes could better prepare Marines for critical skills they need to demonstrate professionally, but never explicitly learn within the schoolhouse.

In "Identifying Moral Perspective Preferences in National Security Professionals," Dr. Pauline Shanks Kaurin, Captain George Baker, and Dr. Leigh Ann Perry shift emphasis to the ethical sphere,

examining results from a moral preferences teaching tool and concluding that PME should incorporate more content on the "ethics of care" to better prepare contemporary defense and security leaders.

In "Teaching Beyond the 'Band of Brothers'," Dr. Megan J. Hennessey shares course materials, student insights, and instructor lessons learned from a pilot elective at the Command and Staff College at Marine Corps University that explains the influence of storytelling, William Shakespeare in particular, on adults' cognitive and affective development and how to apply that influence to lead others in the profession of arms.

In "Endurance and Executive Function: Implications for Military Education from a Study of Marine Officer Fitness and Cognition," Captain Luke S. Gilman investigates whether physical fitness predicts academic performance in military officers by analyzing data from 541 Marine Corps lieutenants at The Basic School.

A few other articles are still in the IPME editorial pipeline, and they soon will join the thoughtful pieces listed above within our online archives.

As we mentioned in the editorial letter of our inaugural issue, coinciding with the 250th anniversary of the Marine Corps, we look forward to hearing reader's thoughts on these topics and we welcome your future participation as an author or reviewer. Please join the conversation and find us online on LinkedIn (https:// tinyurl.com/y38oxnp5), at MCUPress on Facebook, MCUPress on Twitter, and MCUPress on Instagram, or feel free to contact us via email at MCU_Press@usmcu.edu.

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USING TACTICAL DECISION GAMES AS A COGNITIVE ASSESSMENT AND DEVELOPMENT TOOL

Lieutenant Commander Adam T. Biggs, PhD (USN);
and Evan D. Anderson, PhD

Abstract: Tactical decision games have been employed by the military for decades as a method to train and practice tactical thinking. A typical game scenario asks participants to review a tactical situation and draft orders on how to respond. These orders are then examined and debated among experts as to the best courses of action. Performance evaluation is often qualitative rather than quantitative, making structured feedback or scoring difficult and limiting opportunities for development of underlying cognitive abilities. The current review provides oversight of five different scoring protocols that can be deployed to support standardized administration of tactical decision games. These scoring methods include illustration, checkbox, expert matching, cognitive probing, and expert debate. Current applications often use expert debate without following other steps in sequence, potentially leaving novice learners to abduce more general tactical principles from specific tactical solutions. If used in sequence, these scoring procedures may enhance tactical learning and development of relevant cognitive abilities while also providing more valuable performance feedback. By adopting and implementing scoring systems appropriate to the current tactical development level, it is possible to expedite tactical learning and development among military personnel.
Keywords: decision-making, educational games, military, tactical, cognitive development

Decision-making during tactical military situations is challenging and time-sensitive, due to the dynamic, high-risk, and inherently uncertain nature of combat environments. Possible choices and their outcomes are sensitive to everything from weapons and personnel available to the weather conditions. Moreover, an "optimal" choice may be relative if the scenario presents a series of tough decisions, all with adverse outcomes. In such cases, underlying preferences (e.g., risk tolerance, speed versus security) may fundamentally vary between decision-makers. Currently, quantitative methods for measuring decision-making performance under such uncertain conditions remain limited. This shortcoming complicates any performance measurement or cognitive learning opportunity during decision-making, especially if teaching individuals to make the fastest and most accurate decisions under stress. Often, decision-making skills are developed through key exercises such as wargaming. Although highly beneficial in helping people understand the military decision-making process, wargaming and military exercises incur a significant burden in time and effort to execute.[1] This approach limits the "reps and sets" for individuals trying to develop their decision-making process. Thus, there is a need for flexible, rapidly applied tools that can facilitate the learning experience.

One key educational tool currently used to improve decision-making is the tactical decision game (TDG). Military leaders have used these games for centuries to develop subordinate decision-making skills and facilitate contingency planning. For example, Helmuth von Moltke would visit Prussian military academies to present a situation, provide instruction, and guide subsequent discussions after students had engaged in their training games.[2] Essentially, a TDG presents players with information about a hypothetical battlefield or tactical scenario. Participants review the material and then construct an attack plan based on available information. The primary purpose of this exercise is to provide some insight into the decision-making process by evaluating a plan produced under some time pressure. Experts will evaluate and de-

[1] LtCol William J. Cojocar, "Adaptive Leadership in the Military Decision Making Process," *Military Review* 91, no. 6 (2011): 29–35.
[2] Maj Donald E. Vandergriff, "From Swift to Swiss: Tactical Decision Games and Their Place in Military Education and Performance Improvement," *Performance Improvement* 45, no. 2 (2006): 30–39, https://doi.org/10.1002/pfi.2006.4930450207.

bate the merits of different plans, which can provide an effective tool to develop tactical decision prowess among military personnel. However, while these games are clearly relevant to battlefield decisions, they are generally not delivered in a systematic curriculum or scored to quantitatively assess performance. Outcomes are instead evaluated qualitatively, with the debate focusing on the merits and shortcomings of each proposed plan as part of the learning opportunity. As such, TDGs are difficult to standardize and evaluate programmatically, limiting their effectiveness as an educational tool. In this sense, TDGs and wargaming exist in a similar state today as might have been executed with the Prussian military. These exercises can and should be developed more formally to underscore advanced cognitive theory and modern ideas of cognitive development or cognitive enhancement.

The current discussion will explore how TDGs might be employed as quantifiable cognitive assessment tools, and how more structured implementation might allow these exercises to aid in cognitive development and enhancement of decision-making. First, the authors review decision-making, decision games, and their application within a professional military education format. Second, a five-step structure will be provided to progressively increase the complexity of evaluating military decision games and probe the underlying cognitive strategies deployed. If applied appropriately, this progression can also be used as a tool to aid cognitive development in those specific decision-making approaches, as well as facilitate the development of tactical capabilities. Third, the discussion will conclude with how these cognitive development steps could optimize any existing utilization of such games. Taken together, the goal is to formalize the use of TDGs and comparable tools to conduct cognitive assessments while simultaneously enhancing the cognitive capabilities of military personnel.

Decision Games for Military Applications

Naturalistic decision-making emerged during the late 1980s to explore how people make decisions in real-world settings.[3] Previously, research across fields such as game theory and behavioral economics had adopted the perspective that humans make

[3] Gary Klein, "Naturalistic Decision Making," *Human Factors* 50, no. 3 (2008): 456–60, https://doi.org/10.1518/001872008X288385.

optimal choices. When provided with complete information, the rational decision-maker would maximize the expected utility (i.e., value, reward) of a decision's outcome. As an account of real-world decision-making behavior, this approach was fundamentally flawed.[4] Evidence from the heuristics and biases literature instead demonstrated that decision-makers often do not rely on logical or rigorous strategies, and they can have great difficulty arriving at mathematically optimal outcomes.[5] Such findings have motivated wide-ranging literature describing how individuals reason and make decisions in complex real-world environments.

The current naturalistic decision-making literature considers four broad categories of decision-making strategy: recognition-primed, rule-based, analytical, and creative.[6] These four strategies (or often, an overlapping combination of them) broadly describe the cognitive strategies deployed when faced with the capacity-limited, information-limited, and time-limited nature of high-risk decision-making (e.g., in legal, military, healthcare, or emergency response settings). Currently, little research exists to directly compare the efficacy of these strategies in terms of increased performance or improved outcomes. The limited existing research suggests the utilization and efficacy of naturalistic decision-making strategies is highly context-dependent, particularly the ability to apply recognition-primed decision-making when addressing time-sensitive environments.[7]

There is a continuing debate about how these broad cognitive strategies relate to specific facets of decision-making ability. The error-prone, quantitatively "irrational" choices produced by naturalistic decision-makers have been variously argued to be the result of cognitive limitations (neoclassical economics), intuitive bi-

[4] Herbert A. Simon, "A Behavioral Model of Rational Choice," *Quarterly Journal of Economics* 69, no. 1 (1955): 99–118, https://doi.org/10.2307/1884852.

[5] Daniel Ellsberg, "Risk, Ambiguity, and the Savage Axioms," *Quarterly Journal of Economics* 75, no. 4 (1961): 643–69, https://doi.org/10.2307/1884324; and Daniel Kahneman, Paul Slovic, and Amos Tversky, ed., *Judgment under Uncertainty: Heuristics and Biases* (Cambridge, MA: Cambridge University Press, 1982), https://doi.org/10.1017/CBO9780511809477.

[6] Carrie Reale et al., "Decision-Making During High-Risk Events: A Systematic Literature Review," *Journal of Cognitive Engineering and Decision Making* 17, no. 2 (June 2023): 188–212, https://doi.org/10.1177/15553434221147415.

[7] Gary Klein, "Recognition-Primed Decisions," in William B. Rouse, ed., *Advances in Man-Machine Systems Research* (Greenwich, CT: JAI Press, 1989), 47–92; and Reale et al., "Decision-Making During High-Risk Events."

ases that distort belief and choice (the heuristics and biases literature), or to be beneficial and adaptive strategies in the face of uncertainty (ecological rationality).[8] These competing theories of decision-making do not provide clear guidance as to the underlying cognitive processes or operations that constrain naturalistic decision-making performance. This is in part due to a limited understanding of the neurocognitive operations that implement specific decision-making strategies (e.g., generating novel solutions, performing analogical reasoning, applying experience to reason about existing options) under stress and uncertainty, complicating creation of targeted training to enhance decision-making in a military context.

These constraints underscore the challenge of identifying an appropriate set of paradigms and procedures for high-fidelity measurement of decision-making performance in real-world contexts. In essence, research on naturalistic decision-making has struggled with the trade-off between ecological validity and experimental control—a very common problem in applied research—such that, by the time the first formal conference had been held on the topic, at least nine parallel models had already been concurrently developed.[9] While the literature documents these strategies, there is considerably less experimental evidence on their relative performance or underlying neurocognitive differences. One approach to address these problems is therefore to devise a reliable research framework that can measure decision-making performance in an environment structured enough to allow systematic skill learning and cognitive development.

One such research framework with a balance of ecological validity and control is the situational judgment test (SJT), known

[8] Kenneth J. Arrow, "Is Bounded Rationality Unboundedly Rational? Some Ruminations," in Mie Augier and James G. March, eds., *Models of a Man: Essays in Memory of Herbert A. Simon* (Cambridge, MA: MIT Press, 2004), 47–55, https://doi.org/10.7551/mitpress/4709.003.0007; Daniel Kahneman, "Maps of Bounded Rationality: Psychology for Behavioral Economics," *American Economic Review* 93, no. 5 (December 2003): 1449–75; and Gerd Gigerenzer and Reinhard Selten, "Rethinking Rationality," in Gerd Gigerenzer and Reinhard Selten, eds., Bounded Rationality: The Adaptive Toolbox (Cambridge, MA: MIT Press, 2001), 1–12, https://doi.org/10.7551/mitpress/1654.003.0003.

[9] Raanan Lipshitz, "Converging Themes in the Study of Decision Making in Realistic Settings," in Gary A. Klein, Judith Orasanu, Roberta Calderwood and Caroline E. Zsambok, eds., *Decision Making in Action: Models and Methods* (Norwood, NJ: Ablex Publishing, 1993), 103–37.

in military contexts as a decision game. This technique provides participants with a hypothetical scenario and asks them to select the most appropriate response or rank order from several available responses—critically, without instructing or priming the use of a particular decision strategy. Use of SJTs as a selection tool has been validated among medical personnel, to evaluate professional behavior and as a means to assess nonacademic attributes when evaluating candidates.[10] SJTs can compare favorably with existing neurocognitive tests, while having greater predictive validity for identifying and selecting performance under particular circumstances.[11] These attributes make SJTs, and related decision paradigms, a powerful tool in assessment and selection contexts.

Specific SJTs have been deployed for use among military and first responder personnel.[12] It is common for SJTs to assume the moniker of TDGs when applied to these populations; although, for all intents and purposes, they describe essentially the same basic paradigm. These tasks can fulfill versatile roles in military, medical, and law enforcement training. For example, decision games have been suggested as one technique to help responders prepare for asymmetric threats, to practice emergency management, and to otherwise allow for a cost-effective solution to explore

[10] Elin S. Webster et al., "Situational Judgment Test Validity for Selection: A Systematic Review and Meta-analysis," *Medical Education* 54, no. 10 (2020): 888–902, https://doi.org/10.1111/medu.14201; Sebastian Schubert et al., "A Situational Judgment Test of Professional Behaviour: Development and Validation," *Medical Teacher* 30, no. 5 (2008): 528–33, https://doi.org/10.1080/01421590801952994; Kathryn J. Smith at al., "Development and Validation of a Situational Judgment Test to Assess Professionalism," *American Journal of Pharmaceutical Education* 84, no. 7 (2020), https://doi.org/10.5688/ajpe7771; and Fiona Patterson et al., "Evaluations of Situational Judgment Tests to Assess Non-academic Attributes in Selection," *Medical Education* 46, no. 9 (2012): 850–68, https://doi.org/10.1111/j.1365-2923.2012.04336.x.

[11] Anna Koczwara et al., "Evaluating Cognitive Ability, Knowledge Tests and Situational Judgment Tests for Postgraduate Selection," *Medical Education* 46, no. 4 (2012): 399–408, https://doi.org/10.1111/j.1365-2923.2011.04195.x.

[12] Tonis Männiste, Margus Pedaste, and Roland Schimanski, "Review of Instruments Measuring Decision Making Performance in Military Tactical Level Battle Situation Context," *Military Psychology* 31, no. 5 (2019): 397–411, https://doi.org/10.1080/08995605.2019.1645538; Tonis Männiste, Margus Pedaste, and Roland Schimanski, "Situational Judgment Test for Measuring Military Tactical Decision-making Skills," *Military Psychology* 31, no. 6 (2019): 462–73, https://psycnet.apa.org/doi/10.1080/08995605.2019.1664366; and Maj John F. Schmitt, USMCR, *Mastering Tactics: A Tactical Decision Games Workbook* (Quantico, VA: Marine Corps Association, 1994).

decision-making under uncertainty.[13] There is no practical limit on the application as decision games could cover anything from squad-level encounters to a full division-level military engagement. As the scenario merely provides symbols to represent unit size, there are few limits to the scale or decision-making context to be made for a given scenario. Thus, decision games can easily be adapted to fulfill the tactical needs of a particular population and scaled accordingly without incurring a significant cost.

Despite the potential value in using decision games to evaluate personnel, there are several caveats that can limit their practical value. Primarily, any SJT is inherently limited by the answer set provided to the candidate. Not even experts may universally agree on the optimal course of action for a given situation, so forcing a single choice in such a scenario creates a level of subjectivity around the best answer.[14] If a participant would not engage in a course of action provided by the available options, and open-ended answers would not be a practical solution for evaluators, then the test may not adequately reflect individual thinking or creativity. The problem thus becomes a limitation of assessment via hypothetical scenario, both in the branching depth and the quality of choices provided as potential decisions. Another concern is that SJTs may be better at finding consensus among the actions that should not be taken in a given situation rather than actions that should be taken in the same situation.[15] This issue may also be related to poor quality in constructing suitable answer banks for a given question. Immersion is another potential issue that can impact design and limit learning. Scenarios may be brief in part due to logistical considerations of

[13] Neil R. Hintze, "First Responder Problem Solving and Decision Making in Today's Asymmetrical Environment" (thesis, Naval Postgraduate School, Monterey, CA, 2008); M. Crichton and R. Flin, "Training for Emergency Management: Tactical Decision Games," *Journal of Hazardous Materials* 88, nos. 2–3 (2001): 255–66, https://doi.org/10.1016/S0304-3894(01)00270-9; Margaret T. Crichton, Rhona Flin, and William A. R. Rattray, "Training Decision Makers–Tactical Decision Games," *Journal of Contingencies and Crisis Management* 8, no. 4 (2000): 208–17, https://doi.org/10.1111/1468-5973.00141; and Lawrence G. Shattuck et al., "Tactical Decision Making under Conditions of Uncertainty: An Empirical Study," *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* 53, no. 4, (2009): 242–46, https://doi.org/10.1177/154193120905300417.

[14] See also Gary Klein, "Performing a project premortem," *Harvard Business Review* 85, no. 9 (2007): 18–19.

[15] Wendy E. de Leng et al., "Integrity Situational Judgment Test for Medical School Selection: Judging 'What to Do' versus 'What Not to Do'," *Medical Education* 52, no. 4 (2018): 427–37, https://doi.org/10.1111/medu.13498.

measuring at scale, which can limit how immersed an individual becomes in any particular hypothetical situation and impair the transfer of any acquired skills or knowledge when deployed in stressful or time-sensitive environments. This limitation primarily affects roleplayed or pen-and-paper games; however, computer-based interfaces or high-fidelity environmental simulations also introduce challenges when creating immersion. For example, introducing avatars within a virtual environment brings the complication of how to properly convey emotions or urgency during the briefing, possibly defraying transfer of learning to real-world situations.[16]

Thus, a significant challenge in utilizing decision games involves finding balance between scenario complexity and options among the answers. Scenario complexity must strike an effective balance between detail, possibilities, and immersion to produce a suitable tool that does not create a logistical burden. Although many factors impact the development of decision games, the predominant factor should always be the expertise and development of the personnel to whom it is applied. For example, simulating battalion-level tactical decisions is likely inappropriate for enlisted military students learning squad tactics for the first time. There may be occasional and specific uses to employ scenarios significant beyond the current developmental level of the target personnel, although such applications should be rare and by exception. Similarly, the content knowledge of the intended learners should also be accounted for when developing an assessment. Many symbols or other factors could represent elements of the hypothetical battlefield, yet they should represent factors commensurate with the current learning and goals of the personnel in question.

Likewise, providing possible answers can provide unique character and purpose to any particular game. One approach to assessing performance may be to ensure that personnel are not

[16] Benjamin Goldberg and Janis Cannon-Bowers, "Feedback Source Modality Effects on Training Outcomes in a Serious Game: Pedagogical Agents Make a Difference," *Computers in Human Behavior* 52 (2015): 1–11, https://doi.org/10.1016/j.chb.2015.05.008; Youssef Shiban et al., "The Appearance Effect: Influences of Virtual Agent Features on Performance and Motivation," *Computers in Human Behavior* 49 (2015): 5–11; and Gillian C. Visschedijk et al., "Modelling Human Emotions for Tactical Decision-making Games," *British Journal of Educational Technology* 44, no. 2 (2013): 197–207, https://doi.org/10.1111/j.1467-8535.2012.01286.x.

making clearly wrong decisions by selecting the most inappropriate answers. However, given the subjectivity involved in selecting an optimal choice of action under uncertainty, even having a singular correct answer may be more challenging than it would seem. The number and complexity of options available may then also create further logistical burdens as participants must evaluate each possibility and graders must determine the relative value of each answer. Unfortunately, a key advantage of decision games in this complexity is also a core weakness. That is, decision games are typically unique to a situation. This distinctiveness means that they can be crafted specifically to meet the boutique intents of the evaluators and may therefore be difficult to standardize. Perhaps the best advice when developing decision games for military application is that the entire game, both the scenario vignette and the possible answers, should never be constructed in a vacuum. The specific application, audience, and administration context should be identified prior to developing the game, which act as the primary guidance for all questions that might arise later, such as additional details to include in the vignette or the number and complexity of possible answers.

A Range of Evaluation Options for Tactical Decision Games

Although SJTs and decision games often have similar formats, employing them as cognitive assessment and development tools introduces several advantages for measuring or enhancing naturalistic decision-making. The authors present five progressive approaches to scoring TDGs that layer greater complexity into the practical application of decision games in military education. We define these scoring approaches for the TDG format as: 1) illustration; 2) checkboxes; 3) expert matching; 4) cognitive probing; and 5) expert debate (table 1). These five methods are presented as a continuum from least complex to most complex that can be applied to modify the content and the scoring of a specific scenario. Each additional level introduces a complexity that alters practical application of the decision game, with the intent of advancing the cognitive development of personnel utilizing these tools. Each provides opportunity for administrators or researchers to quantify performance and provides learners the ability to focus learning

Table 1. Overview of the different methods to evaluate tactical decision games (TDGs)

Evaluation method	Scoring technique	Purpose
Illustration	Detail the steps to produce a response in a TDG	Teach new participants how to create a fragmentary order (FRAGO). This method is for instructional purposes only.
Checkbox	Quantify the percentage of essential components included in the response	Ensure that a participant is aware of all the necessary components. This method differs from illustration because the participant generates the answer and receives a percentage score for completion.
Expert matching	Determine how accurately a participant can align their responses with an expert	The scores are compared against expert answers to the same prompts, usually in the form of multiple-choice questions. Participants can see how often their answers align with experts, and ideally, the participants can see logic as to why the expert chose that response over other options.
Cognitive probing	Ask open-ended questions to assess comprehension of a given situation and alternatives	Participants will receive a prompt and then see additional questions that could change the scenario (e.g., What if airpower changed in this scenario?). The intent is to enhance cognitive skills through techniques such as premortem thinking to deepen the participant's ability to think critically about a given scenario.
Expert debate	Experts provide answers to the same prompt, then debate the merits of their responses	Scoring is largely qualitative in this method, but the purpose is to create a structured forum for debating the tactical advantages of different approaches. Answers are neither right nor wrong, though always debatable. Introducing student learners too early to this technique could overwhelm them and limit their learning in these scenarios.

Source: courtesy of the authors.

through a progression of sequential educational goals (see instructional scaffolding).[17]

Illustration

The first evaluation approach has nothing to do with the quality of the tactical actions developed as part of the decision game. Instead, the first evaluation method is intended to simply illustrate the different components of a fragmentary order (FRAGO) developed in response to the hypothetical scenario. Its purpose is to use a sample FRAGO as an example from which the basics of design and organization can be taught to novice students. As such, it could be counterproductive to have a novice learner draft a FRAGO without first giving them the proper pieces that should enter the tactical plan. This approach has the value of teaching fundamental TDG elements so that learning the format does not interfere with developing the cognitive skills and tactical acumen that the decision game is supposed to foster. Nonetheless, illustration is extremely limited in value as its only real purpose is to explain the decision game tenets to novices. Once an individual understands the format, there is little point in returning to the illustration method except to further introduce new concepts, such as decision games that occur at the battalion level rather than the squad level. Quantitative assessments of the learning that occurs during illustration (e.g., testing identification of the components of a FRAGO) are likely of limited value for assessing decision-making ability.

Illustration is most often used in an educational environment. Students are likely learning the basics of tactics while under formal instruction, and so the illustration technique provides a way to introduce key concepts and formats. An instructor will lay out examples and walk students through fundamentals of tactics for given units, formatting for a given order, or otherwise provide instruction as needed to develop skills. In this sense, illustration does little for formal development or tactical acumen. The purpose is to alleviate a cognitive burden by allowing directed learning of basics so that the individuals are not distracted during later stages of learning. For example, if someone is still learning basic symbols used in the

[17] L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, ed. Michael Cole et al. (Cambridge, MA: Harvard University Press, 1978).

games, their decision-making errors may come from a lack of symbols knowledge rather than poor tactical plans or errant situational awareness. Illustration is thus a technique for instruction that helps develop individual comprehension for fundamentals associated with tactical decision-making scenarios.

Checkboxes

The second evaluation approach involves checkboxes. Whereas the first method provided illustrations as comparisons of the different solutions to various decision games, the second method provides an opportunity to ensure completion within a particular game. Again, quality answers are less important than consideration and engagement with the available information for the game. The goal should be to ensure that participants consider all pieces of the tactical puzzle they are presented with. For example, one scenario might provide instructions to take a particular hilltop while ensuring sufficient suppressive fire to secure the safest possible approach. If the FRAGO does not include instructions that appropriately incorporate available artillery into the equation or otherwise ignores critical elements of firepower available during the scenario, then the decision plan would likely be incomplete. Checkboxes are a method to ensure completion and integration of all components that should be represented in any plan.

Moreover, checkboxes provide a quantitative method to evaluate performance. If there are 10 items that the FRAGO should include, then having a checklist of 10 items helps identify individual progress as performance can be quantified and compared across scenarios. Still, the goal is to ensure that a participant addresses all the relevant elements. Optimal execution is a secondary concern, and while some feedback can be given to foster future development, feedback should remain positive and focused on the constructive elements of the plan (as detailed negative feedback would likely detract from the primary purpose of the checkbox approach). Checkbox assessments of this nature will load a broader spectrum of cognitive abilities than the previous illustration method (reflecting larger individual differences in cognition) and may serve as a performance assessment for rule-based decision-making when paired with the instructions to consider all provided information in constructing a FRAGO.

Checkbox methods are best used with students in a learning environment. The goal is to ensure that individuals can include or understand all requisite pieces of the scenario. Without a full understanding of the working product, tactical errors could be attributed to misunderstandings in what should be included rather than poor planning. For example, a checkbox method should evaluate whether an individual has prepared a plan in accordance with all rules and formatting required for the scenario. The evaluation is thus based on completion rather than quality of the assembled plan. Its application ensures that students or other people still learning the base scenario have adequately understood everything that should be included. Once they have developed a sufficient cognitive bandwidth to incorporate all requisite elements, then subsequent steps can focus on refinement and quality. Checkbox techniques represent an advanced instructional tool that can provide objective feedback to students rather than a tool to explore tactical proficiency. From a cognitive perspective, the checkbox method helps identify whether the individual is overwhelmed by the cognitive load imposed by a given situation.

Expert Matching

Expert matching is the third approach to evaluate military decision games, and it is this approach that bears greater resemblance to other SJT evaluation methods. The intent is to have experts provide their answers and then compare the answers of advanced students against the expert evaluations. This method can take several formats, although two approaches dominate. In the first, multiple options are provided, and students must select the best course of action. This approach is relatively straightforward, but it can be supplemented as a teaching tool by having a statement from the expert accompany the answer. This statement provides further insight as to why this option would be better than the other possibilities provided. Alternatively, participants may have to rank order from among the multiple options available. By probing participants for this more nuanced response, it is possible to assay greater variation between individuals and gain further insight into their decision-making processes. Scoring can become more complex as to whether any matches should be counted equally or if matching higher-order options warrants more points, but this approach

provides a quantifiable method for matching to expert opinion.

Furthermore, there is an opportunity to execute these ideas in an electronic format to better accommodate large samples. For example, some programs computerize such procedures to both effectively scale learning and produce faster feedback, including the ShadowBox™ training program.[18] Among the options available to evaluate solutions to decision games, expertise matching is perhaps the most widely used and most readily quantified, assuming appropriate expert solutions can be attained, which may prompt further debate among experts given the subjectivity in finding an "optimal" solution to any hypothetical scenario (to say nothing of how uncertainty may preclude such a solution at all). The latter problem can be solved, however, by producing only options that achieve expert consensus before providing such possible answers to student learners.

Expert matching is where tactical comprehension truly begins to develop. Problem solving and other higher-order cognitive functions become fully engaged. Accordingly, the individual is now actively looking for critical information and creating possible solutions to the problem set. If the application remains within guided instruction, these cases are likely advanced students who are almost ready to graduate. A more practical example would be individuals with their gaining unit who continue to learn and develop. From a cognitive perspective, expert matching provides multiple opportunities to engage different cognitive abilities. Guided instruction or feedback can still target cognitive development to specific abilities, which can help an individual develop faster. For example, someone might show greater strengths or weaknesses in sensemaking (e.g., quickly assessing a situation) versus identifying tradeoffs and priorities (e.g., determining among competing priorities in complex situations). Targeted cognitive development would limit the TDGs involved based on individual needs. If someone has a shortfall with sensemaking, then they should focus on this element with initial impressions of the scenario. The problem

[18] Joseph Borders et al., "ShadowBox™: Flexible Training to Impart the Expert Mindset," *Procedia Manufacturing* 3 (2015): 1574–79; Gary Klein and Joseph Borders, "The ShadowBox Approach to Cognitive Skills Training: An Empirical Evaluation," *Journal of Cognitive Engineering and Decision Making* 10, no. 3 (2016): 268–80; and Gary Klein, Neil R. Hintze, and David J. Saab, *Thinking Inside the Box: The ShadowBox Method for Cognitive Skill Development* (Washington, DC: MacroCognition, 2013), 121–24.

becomes trying to assess too much at once. Expert matching is an opportunity to develop cognitive skills, but trying to develop too many simultaneously can be overwhelming and ineffective.

Expert matching also raises an important question: How is expertise defined? TDGs represent a wide variety of scenarios that explicitly attempt to foster debate. Different experts might not agree, and so defining the group of people considered "expert" can influence performance standards. The simplest approach is to allow instructors in professional military education or other formal educational environments to be deemed experts by virtue of their position. This approach is straightforward, but it functions as prima facie logic. Another approach might be to identify people with experience in the field most relevant to the scenario. Artillery personnel can provide input if the scenario calls for fires, whereas military police can identify relevant factors based on their experience. Alternatively, minimal experience might still qualify someone as an expert. Drone warfare is a nascent concept, and some of the foremost experts could be people with experience from the Russia-Ukraine conflict. This example emphasizes how expertise might have different definitions for emerging concepts. Nevertheless, there will not be any singular definition of expert when considering tactics. Positional authority and experience help provide some guidance to defining an expert, although the reality is that there will be some fluid definition of expertise based on the scenario.

Cognitive Probing

The fourth evaluation approach, cognitive probing, represents a significant shift in the purpose of cognitive assessments. Unlike checkboxes or expert matching, cognitive probing is a method to explore intuition, innovation, and decision-making by exploring how fully an individual understands the scenario. The premise is relatively simple. Specifically, cognitive probing begins by identifying a simple set of cognitive principles to be explored further. One excellent application would be to draw on the lessons learned from previous examples of cognitive skills training.[19] This existing research identifies and defines seven core activities that could be

[19] Gary Klein et al., "Cognitive Skills Training: Lessons Learned," *Cognition, Technology & Work* 20, no. 4 (2018): 681–87, https://doi.org/10.1007/s10111-018-0528-5.

enhanced during cognitive skills training. For example, attention management describes how well an individual can recognize and monitor critical information, whereas performing workarounds describes how well an individual considers the situation beyond the current ruleset. Each option provides a way to dive deeper into how well a student truly understands the problem in a decision game. Attention management can be manipulated by exploring what information might be missing that could affect the decision, or performing workarounds can be challenged by exploring how the solution might change with the introduction of a new variable—enemy air support suddenly becoming relevant, as one possible tactical development.

Cognitive probing thus delves deeper into comprehension than expert matching could. With options aligned under expert match, there is no room for growth beyond simply having a more complete match to the expert opinion. With cognitive probing, the intent is to push the boundaries of innovation and explore comprehension by allowing the individual to integrate more complex reasoning and judgment skills without completely breaking the boundaries of the given scenario. These cognitive abilities are likely to underpin the successful deployment of naturalistic decision-making strategies, particularly in novel or variable situations in which existing expertise (and recognition-primed decision-making in general) are insufficient to fully assess the present (novel) problem-state or optimally select between possible choices.

There is no hard limit to the cognitive skills that could be integrated into this approach, providing instructors and researchers a structured tool to prompt and directly elicit specific cognitive facets of decision-making. Gary Klein et al. provide an excellent starting point, but aspects such as anticipating future states could incorporate premortem thinking to further extend cognitive capability in decision-making.[20] Premortem thinking pushes an individual by asking what went wrong with their plan before it goes awry.[21] It represents one of many possible techniques to force an individual to think beyond the next action and into the complexities of how subsequent adversarial actions might affect their tactical plan.

[20] Klein, "Cognitive Skills Training."
[21] Gary Klein, "Performing a Project Premortem," *Harvard Business Review* 85, no. 9 (2007): 18–19.

From an educational perspective, the goal is to truly foster expertise development. Cognitive probing explores how much an individual understands a given scenario and would likely benefit individuals who are transitioning into roles as instructors. Whereas expert matching helped someone isolate particular cognitive skills for development, an individual could still confidently provide a robust answer without fully understanding the context and implications. Cognitive probing explores depth of understanding rather than superficial reasoning. From a cognitive development perspective, cognitive probing fosters creativity by helping an individual explore the boundaries of their current thought processes.

Expert Debate

As the fifth and final technique to evaluate military tactics through decision games, expert debate represents TDG discussion in its truest form—and indeed, the way the games were intended to be played. Using this premise, experts craft solutions and debate the merits of different suggestions. Military professional outlets, such as the Marine Corps Gazette, have published these games for decades as well as different solutions to achieve this precise purpose. Their function is not unlike any other form of expertise development, where truly innovative and expert level performance is developed further through peer review and discussion. However, expert debate should not be the only option. Asking novices to participate among experts is both unfair and likely counterproductive to development. Expert debate is also very difficult to quantify when conducting evaluations. It might be possible to have experts provide grading structures on Likert-type or comparable scales, yet the quality of expert solutions is likely to exceed any meaningful differences if using checkboxes or expert matching. Still, there might be additional value to cognitive probing among expert opinions as a means to provide structure and guidance to any debate, particularly if it is targeted at pursuing specific cognitive abilities or naturalistic decision-making strategies. As method of assessment and instruction though, expert debate represents the far end of the spectrum that takes significant time to achieve, though it affords the ability to elicit expert insight into successful naturalistic decision-making.

When these different assessment techniques are applied at the

appropriate level, they can give a snapshot of learning that provides instructors insight into the current cognitive capabilities of their personnel. Checkboxes and expert matching are easily the most reliably quantifiable of the methods, which may explain their predominance in previous uses. Other methods have more qualitative value, although it is possible to assign a structured grading system to qualitative methods to gauge progress. For example, premortem thinking questions can be posed to participants with a rubric to delineate unsatisfactory answers from average or excellent answers. The problem becomes standardization. A relatively objective rubric can provide structure to opinions, but this method becomes difficult to scale as it does require someone to provide feedback to conduct an evaluation. Expert matching, by comparison, scales more easily given that the matching function can be automated and placed into electronic format. Each method has its advantages and disadvantages, both in scalability and the quality of feedback the technique can provide, but there are subsequent advantages to having a more complex and multilayered scoring system to evaluate military decision games.

Enhancing Cognitive Development through Decision Games

The cognitive assessment methods listed previously provide multiple pathways to evaluate decision games for military application. Each method evolves and expands the complexity of scoring, yet this increased complexity comes with a particular purpose. That is, the scoring system evolves along with student capabilities. This progressive instructional approach affords an ideal environment to train cognitive skills. Novice students should be learning the basics of the paradigm and ensuring they can provide a complete order that addresses all components of the scenario. This goal is accomplished by the illustrative nature of the first approach and the checklists of the second approach. Expert matching and cognitive probing further expand these capabilities—first by matching the responses to expert solutions, then by expanding reasoning and decision-making elements within individual comprehension of the scenario. The goal is to reach the final stage, expert debate, on a much faster timeline than what would have been probable otherwise.

Granted, there is a major concern using decision games as a cognitive development tool. Medical studies suggest that there is significant value in using SJTs to evaluate nonacademic aspects, such as professionalism, but there is scant evidence that decision games can be used to expand cognitive development. Expanding the scoring system is one possible approach that could both aid learning and quantifying progress, which might be a suitable method to enhance cognitive development without evoking significant debate about near transfer or far transfer of cognitive learning.[22] Still, the lack of empirical evidence raises questions about how best to utilize decision games in support of cognitive development for servicemembers.

Conversely, elements of naturalistic decision-making (e.g., practicing underlying cognitive skills, developing specific decision-making strategies) amenable to education and enhancement are likely to require some amount of simulated (e.g., TDGs) or real-world (e.g., combat deployment) practice to foster meaningful and sustained enhancements. Four primary strategies for naturalistic decision-making have been studied: recognition-primed, rule-based, analytical, and creative. Of these, intuitive/recognition-primed and rule-based strategies are the most likely to benefit from intentional cognitive development through TDGs, as they depend directly on the structured memory and crystallized knowledge that progressive use of TDG scoring allows participants to acquire. In contrast, creative and analytical decision-making may be more difficult to develop or enhance, as they depend on more complex cognitive operations and on resistance to some sources of heuristics and biases. Even so, empirical evidence demonstrates that cognitive flexibility and decision-making are amenable to enhancement through intervention, suggesting that structured education

[22] *Near-transfer* is a term that indicates the training task is close to the actual application, whereas *far-transfer* indicates that the training task is highly different from the end application. For example, a near-transfer marksmanship task would train someone with a pistol on a marksmanship range for a shooting competition. By comparison, a far-transfer task might be cognitive enhancement through a computer-based memory task to help someone handle the cognitive load of an intense real-world shooting scenario. Susan M. Barnett and Stephen J. Ceci, "When and Where Do We Apply What We Learn?: A Taxonomy for Far Transfer," *Psychological Bulletin* 128, no. 4 (2002): 612, https://doi.org/10.1037/0033-2909.128.4.612.

may be capable of driving improvements in performance.[23] Regardless, it indeed remains an empirical question as to the extent decision-making skills taught using simulated games would show transfer to enhanced decision-making performance in real-world combat operations.

An important consideration is that, while the various cognitive assessments may be limited in evaluating cognitive development, there is a key advantage in that they can capture and quantify individual differences in decision-making performance and development of expertise. In particular, expert matching provides an ideal comparison between unaided individual progress and the progression of cognitive development when aided by directed learning programs. Put another way, is the program effective in developing experts faster than student learning without such support? There is an attractive element in quantifying performance and progress among military personnel that cannot be ignored, especially when considering how program efficacy will be reported to senior leadership.[24] For example, in a hypothetical situation, expert matching provides an easy way to quantify those students who underwent a cognitive development initiative and matched experts 96 percent of the time after only 10 weeks, whereas students who did not undergo similar development matched experts only 25 percent of the time during the same period. An extreme example of hypothetical learning potential, but the contrast displays a single-sentence, bullet point method of conveying outcomes that would appeal to military leadership. This quantifiable method of evaluating progress is an important step in measuring program success for any military endeavor.

Given the relative importance of expertise matching in measuring progress, it is also important to stress the nuanced role that expert matching can play in cognitive development. Specifically, early learning steps should have expert matching in scenarios with

[23] Radwa Khalil, Ben Godde, and Ahmed A. Karim, "The Link Between Creativity, Cognition, and Creative Drives and Underlying Neural Mechanisms," *Frontiers in Neural Circuits* 13, no. 18 (2019), https://doi.org/10.3389/fncir.2019.00018; and Christopher E. Zwilling et al., "Enhanced Decision-making through Multimodal Training," *NPJ Science of Learning* 4, no. 11 (2019), https://doi.org/10.1038/s41539-019-0049-x.

[24] Adam T. Biggs, "How to Enhance Military Research Using Mathematical Psychology," *Journal of Mathematical Psychology* 106 (2022): 102619, https://doi.org/10.1016/j.jmp.2021.102619.

consensus. Novice learners should not attempt to pick apart the intricacies associated with divergent expert opinions that address subtle or even theoretical points in application. Instead, novice learners would benefit most from engaging in decision games where the experts have reached consensus on the best courses of action. As the student progresses, it may become valuable to give them scenarios with diverging expert opinions. Seeing and dissecting the contrast may provide a valuable learning opportunity that aids in their development. For similar reasons, expert matching is likely best done initially as a single-choice option, where students are selecting the best course of action. This approach limits the cognitive workload as students are merely identifying the best course of action and not exploring the intricacies of relative merit among lesser options. Because high cognitive workload can impair learning, the associated cognitive load should be appropriately managed during the learning process.[25] The goal should be to challenge students without overwhelming them. During decision games, rank ordering options represent a more complex cognitive task as nuance among lesser options must be debated and compared. As such, rank ordering options should be incorporated as a method to increase the cognitive workload and help students progress to a more advanced state but not introduced as the first approach when conducting expert matching.

Another consideration involves the type of decision-making that military decision games should aim to develop. Combat scenarios inherently have an element of urgency and danger that cannot truly be paralleled in other forms of decisions. For example, while trauma surgery may have significant pressure as the life of the patient could be at risk, the doctor's life is rarely at stake within a surgical setting. The same cannot be said for combat applications or even military medicine. Additional hazards increase the relative dangers associated with decision-making, and in so doing, significantly increase the environmental pressures. Substantial effort has gone into exploring techniques and methods to increase the real-

[25] F. Javier Lerch, Cleotilde Gonzalez, and Christian Lebiere, "Learning under High Cognitive Workload," in *Proceedings of the Twenty First Annual Conference of the Cognitive Science Society* (East Sussex, UK: Psychology Press, 1999), 302–7; and Ryan McKendrick et al., "Theories and Methods for Labeling Cognitive Workload: Classification and Transfer Learning," *Frontiers in Human Neuroscience* 13, no. 295 (2019), https://doi.org/10.3389/fnhum.2019.00295.

ism of such scenarios.[26] For high-stakes decision-making, the implication is that decisions and planning may not always be conducted under the relatively leisurely pace of SJTs or other decision game formats. Military personnel may need to rely more on intuitive decision-making.[27] Intuitive decision-making may depend heavily on recognition-primed strategies, implicating pattern recognition and crystallized knowledge in performance.[28] Threat assessments and related perceptual processes may thus have a more significant influence on intuitive decision-making than a typical decision game would afford to practice, highlighting the utility of training and measuring fast and efficient rule-based decision-making in more realistic contexts. Therefore, cognitive development must consider the need to enhance decision skills in both controlled formats associated with planning and the more urgent formats likely to better parallel combat decisions.

Summary and Future Directions

Decision games provide an excellent tool to teach tactical think-

[26] Katherine R. Gamble et al., "Different Profiles of Decision Making and Physiology under Varying Levels of Stress in Trained Military Personnel," *International Journal of Psychophysiology* 131 (2018): 73–80, https://doi.org/10.1016/j.ijpsycho.2018.03.017; Debbie Patton, "How Real Is Good Enough?: Assessing Realism of Presence in Simulations and Its Effects on Decision Making," in *Foundations of Augmented Cognition: Advancing Human Performance and Decision-Making through Adaptive Systems* (Cham, Switzerland: Springer, 2014), 245–56, https://doi.org/10.1007/978-3-319-07527-3_23; and Debra Patton and Katherine Gamble, "Physiological Measures of Arousal during Soldier-relevant Tasks Performed in a Simulated Environment," in *Foundations of Augmented Cognition*, 372–82, https://doi.org/10.1007/978-3-319-39955-3_35.

[27] Lisa A. Burke and Monica K. Miller, "Taking the Mystery out of Intuitive Decision Making," *Academy of Management Perspectives* 13, no. 4 (1999): 91–99, https://doi.org/10.5465/ame.1999.2570557; and Katherine H. Hall, "Reviewing Intuitive Decision-making and Uncertainty: The Implications for Medical Education," *Medical Education* 36, no. 3 (2002): 216–24, https://doi.org/10.1046/j.1365-2923.2002.01140.x.

[28] Gary Klein, *Sources of Power: How People Make Decisions* (Cambridge, MA: MIT Press, 1998), https://doi.org/10.7551/mitpress/11307.001.0001; Jennifer K. Phillips, Gary Klein, and Winston R. Sieck, "Expertise in Judgment and Decision Making: A Case for Training Intuitive Decision Skills," in *Blackwell Handbook of Judgment and Decision Making*, ed. Derek J. Koehler and Nigel Harvey (Hoboken, NJ: Blackwell Publishing, an imprint of Wiley, 2004), 297–315, https://doi.org/10.1002/9780470752937.ch15; and Gary Klein, "A Naturalistic Decision Making Perspective on Studying Intuitive Decision Making," *Journal of Applied Research in Memory and Cognition* 4, no. 3 (2015): 164–68, https://doi.org/10.1016/j.jarmac.2015.07.001.

ing in a progressive manner. Although these games have been developed and played among military servicemembers for decades, there remains immense potential in enhancing the process. This potential lies practically in truncating the learning curve so that novices become experts in a shorter time frame and theoretically in enhancing cognitive development of the individual, particularly where instruction is scaffolded to target specific cognitive abilities or decision-making strategies. In summary, the steps laid out here provide distinct opportunities to use the scoring system as feedback to expedite individual development of tactical decision-making, and ultimately to measure and track individual differences in naturalistic decision-making performance.

An important question is whether the context changes the implications for different scenarios. For example, TDGs could be applied in a training environment, such as The Basic School at Marine Corps Base Quantico, Virginia, versus a professional military education environment, such as the U.S. Army's Command and General Staff College at Fort Leavenworth, Kansas. Many different environments use some form of TDGs. Still, the application is likely matched most to the expertise of the personnel and their current cognitive enhancement needs. Basic training environments are more likely to use illustration or checkboxes since they are dealing with junior personnel who are learning the fundamentals. Conversely, professional military education would benefit more from cognitive probing methods because the students are likely to be at a more advanced level of their career. The specific application scenario is therefore not as important as the current experience. Even an operational environment could use all five methods, but the best use case will depend entirely on the current expertise of the target audience.

Standardization is another topic to consider when contrasting these methods across different environments. Some standardization is essential, especially at lower levels, such as illustration, where the common operating picture should be similar across different scenarios. Military doctrine largely addresses this need by standardizing symbols across different scenarios. However, the need for standardization becomes less as the method becomes more developed. Expert debate by its very nature cannot fully be standardized as its purpose is to elicit novel ideas. Perhaps expert

matching is the one level most in need of formal standardization. Expert matching requires some process to identify experts, create scenarios, develop answers, and refine feedback. As more expert matching can be developed, greater standardization can impart a more consistent level of instruction for different scenarios and applications. Common consensus on the experts involved is implicit in standardization, but these tools are also very important in individual development. Nevertheless, the takeaway is that standardization needs vary across levels of cognitive analysis with TDGs, where increased standardization is more important at lower levels of analysis.

Other dynamic learning methods could similarly benefit from the cognitive structure supplied here. For example, wargaming is often a complex and dynamic training exercise that helps foster professional development and individual expertise in warfighting. However, wargaming is also notoriously reliant on a highly capable white cell to adjudicate the exercise while trying to ensure some level of realism. Wargaming could benefit from the cognitive structure discussed here by facilitating expert matching, cognitive probing, and expert debate in measured response to the needs of individuals completing the exercise. In practice, this change would have one member of the white cell dedicated to cognitive enhancement components for individual development. An example could involve using cognitive probing to assess whether the individual is fully thinking through the problem and pushing the boundaries of their understanding. In practice, a division-level exercise might impose a target working group as part of the simulation but run by the white cell to ask leading questions about situational awareness and problem solving. This working group could maintain the perceived realism of the exercise while providing a targeted opportunity for cognitive enhancement by using methods outlined in the cognitive probing stage. There are many such possible applications that can be tailored to individual wargames, exercises, and other warfighting tasks within an educational environment. For cognitive enhancement, the goal is to supplement activities in the exercise based on cognitive skills in such a way as to augment the individual learning experience and facilitate expertise development.

Finally, it is important to note that we have not addressed the importance of team-based performance. Effective tactical deci-

sions must still be communicated and coordinated, and while the orders imply the capability to do so, execution remains a concern warranting additional attention. This form of team development remains an essential component of effective military performance.[29] Thus, tactical decision-making development should be supplemented by field exercises to ensure that these skills remain viable under highly realistic settings, and future work may therefore wish to extend the approach and scoring formats advocated here to group or collective scenarios.

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[29] Joan H. Johnston et al., "A Team Training Field Research Study: Extending a Theory of Team Development," *Frontiers in Psychology* 10 (2019): 1480, https://doi.org/10.3389/fpsyg.2019.01480.

REASON FOR VICTORY

The Theoretical Elements of National Security Policy

Andrew L. Stigler

Abstract: All policies, strategies, and operational plans are informed by a wide array of theories, whether in the form of sophisticated empirical investigations or assumptions based on limited evidence. Military officers who develop (or who advise those who develop) policies and strategies will constantly engage in theorization during the course of their duties. Despite this, they are not guaranteed to receive an educational grounding in theoretical assessment during their time in professional military education (PME). Being alert to the methodological issues that can arise during the course of military taskings can be a huge asset to an officer. This article offers guidance for military officers engaged in these tasks at an educational level that could be useful for both the intermediate and senior ranks of officers engaged in PME. The author explains why it is useful to employ a broad but accepted definition of the term theory to encompass concepts and assumptions based on limited evidence. This article explores the understated importance of theories, and it offers a framework for assessing the theoretical foundations of policy options. There are three primary opportunities to analyze theories and potentially detect errors in theoretical reasoning: by clearly stating each theory and its causal element, by exploring what evidence supports or disconfirms the theory, and by inquiring what competing theories could discredit the theoretical conclusions that support the policy option under consideration.

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While this article certainly does not present a perfect method for preventing errors, alertness to these three semisequential opportunities can prevent costly policy mistakes. All militaries would be well served if PME institutions offered students a more thorough grounding in these matters. This article offers guidance for officers engaged in these tasks and for PME faculty seeking to bring elements of theoretical analysis into their curricula.
Keywords: critical thinking, professional military education, PME, reasoning, theoretical assessment, causality

On 24 February 2022, Russian president Vladimir Putin decided to put his theory of military victory over Ukraine to the test. He believed that larger militaries will usually defeat smaller militaries, that a socially fractured Ukraine would not mount an effective resistance to a Russian invasion, that Russian-speaking Ukrainians would quickly align with Russia, and that Russia's years of investment in its military had successfully increased its military capability.[1] These were among the many theories that underpinned Putin's prediction that Russia would rapidly conquer Ukraine. As the world learned in the months and years that followed 24 February, the Russian leadership had done a poor job estimating the likely outcome of the invasion, a damning assessment that Putin shared.[2]

But Russia's invasion also tested the theories of U.S. president Joseph R. Biden and his advisors, and some senior White House counselors were just as wrong as their Russian counterparts. Biden's administration had predicted a Russian invasion of Ukraine eight months prior to the February 2022 attack, and communicated this prediction to the world. Some American officials, such as Chairman of the Joint Chiefs of Staff general Mark A. Milley, arrived at some of the same predictions that the Russians had relied on, particularly

[1] This list is adapted from Natalia Bugoyova, Kateryna Stepanenko, and Frederick W. Kagan, "Weakness Is Lethal: Why Putin Invaded Ukraine and How the War Must End," Institute for the Study of War, 1 October 2023.

[2] Approximately two weeks after invading Ukraine, Putin had two of his top intelligence officials interrogated for providing poor intelligence and then placed under house arrest, a strong indication Putin was unhappy with his government's preinvasion analysis. Helene Cooper, Julian E. Barnes, and Eric Schmitt, "As Russian Troop Deaths Climb, Morale Becomes an Issue, Officials Say," *New York Times*, 16 March 2022.

that the Ukrainian military would collapse in short order.[3] If instead those American officials had anticipated Ukraine's successful resistance, they might have been incentivized to send more weapons to Ukraine as far in advance of the Russian attack as possible. Biden's preinvasion policy might have been very different, possibly reducing Russian gains in early 2022. It should be noted that an undesired outcome does not necessarily indicate that a failed process of analysis was at work.[4] But for the West, as was the case with Russia, inaccurate theorizing of likely outcomes may have had serious consequences for a major European conflict.

These examples of American and Russian miscalculations surrounding the 2022 invasion of Ukraine illustrate the impact that theoretical reasoning can have on military assessments. To be sure, there are potential alternative explanations for these predictions other than theoretical miscalculation, such as motivated reasoning and groupthink.[5] But the theories that formed the foundation of American and Russian expectations, both stated and unstated, should be given a major share of the blame for the errors that followed.

For PME educators hoping to prepare officers to detect and prevent errors of reasoning that underpin military assessments, finding opportunities to improve students' theoretical reasoning is a critical task.[6] At the start of new tours of duty, most military officers receive minimal formal education on recognizing and improving the theoretical foundations of their assessments, and they may advance in their careers with little guidance on how to detect and evaluate the theories they may be unwittingly applying to critical military and policy decisions.[7] PME may offer the only structured opportunity to address this educational gap.

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[3] Yuliya Talmazan, Tatyana Chistikova, and Teaganne Finn, "Biden Predicts Russia Will Invade Ukraine," NBC News, 20 January 2022; and Jacqui Heinrich and Adam Sabes, "Gen. Milley Says Kyiv Could Fall within 72 Hours if Russia Decides to Invade Ukraine," Fox News, 5 February 2022.

[4] The author thanks the anonymous reviewer for this observation.

[5] For an overview of these and other applicable cognitive concepts, see Ulrike Hahn and Adam J. L. Harris, "Chapter Two—What Does It Mean to Be Biased: Motivated Reasoning and Rationality," *Psychology of Learning and Motivation* 61 (2014): 41–102, https://doi.org/10.1016/B978-0-12-800283-4.00002-2.

[6] At the Naval War College, instructors have at times included material on critical thinking and reasoning. They also offer a seminar session dealing with cognitive heuristics and their impact on decisions and assessments.

[7] While the author has not performed a scientific survey on this topic, the speculation here is based on many conversations with students and military colleagues.

This article proceeds as follows. The author illustrates the role of theoretical assessment in military officers' careers with U.S. Army general Stanley A. McChrystal's assessment of the reconstruction effort in Afghanistan in 2009. For continuity, McChrystal's assessment will be used as an example throughout the article. The author then argues that officers should be alert to three primary opportunities to assess or reassess the theoretical foundations of national security policy. These three opportunities constitute a checklist of sorts, inspired in part by Atul Gawande's *The Checklist Manifesto*.[8] Gawande's work encourages the use of checklists in a very different but similarly consequential vocation: the operation of hospital intensive care units. Gawande found that simply reinforcing the steps necessary to minimize the likelihood of infections (i.e., having a checklist) led to a striking improvement in patient recovery rates.[9] If some of the errors in foreign policy could be prevented by PME institutions encouraging students to pay greater attention to the theoretical motivations for a policy, then such a checklist could focus efforts to improve any military assessment's theoretical foundations.

There are three primary opportunities to assess the theoretical foundations of any prediction or assessment. First, by clearly stating the most important theoretical elements that form a foundation of an assessment, one can potentially detect gaps and oversights in the predicted causal chain of events and other potential weaknesses of the theory. Second, one should ask if the historical record offers supporting or disconfirming evidence that relates to those theoretical foundations. What do pertinent cases in the modern era say about the possible outcomes? Third, officers should look for competing and potentially disconfirming theories that could undercut the theoretical basis of a policy or assessment.

Most national security decisions are supported by a host of theoretical foundations, regardless of whether the decisionmaker is cognizant of that fact. Military officers often support senior leaders in the policymaking process, which is why PME institutions should seek to better prepare officers for what may be unfamiliar but mission-critical tasks. The theories (again, broadly defined)

[8] Atul Gawande, *The Checklist Manifesto: How to Get Things Right* (New York: Metropolitan Books, 2011).

[9] For a shorter review of Gawande's arguments regarding the advantages of checklists, see Atul Gawande, "The Checklist," *New Yorker*, 2 December 2007.

that motivate consequential decisions are often not grounded in deep research and robust empirical support. Sometimes leaders have too casually embraced the motivating theories that support a policy option for a major decision. Consider President George W. Bush's dual theories that 1) Iraq could be successfully democratized following the 2003 invasion, and 2) that a democratic Iraq would inspire democratic transformation in the region.[10] These two images of benign policy outcomes, while potentially appealing to American audiences, could easily have invited profound skepticism if they had been subjected to closer examination. The United States' colossal and multiyear investment in Iraq's democratic reconstruction was partially propelled by these casually theorized aspirations.[11] The decision to invade is now viewed by many as a major policy blunder, and it serves as a potent indication that the topic of this article should be addressed by PME institutional curricula.[12]

This article embraces a broad definition of the word *theory*, one that is more aligned with common usage in foreign policy debates. Theory can refer to a conjecture that awaits proof or to a theoretical concept that one intends to apply to a concrete situation as a basis for action.[13] Methodologists Jason Seawright and David Collier embrace this usage when they define a theory as the "conceptual and explanatory understandings that are a point of departure in conducting research, and that in turn are revised in

[10] "Iraqi democracy will succeed . . . that success will send forth the news, from Damascus to Tehran—that freedom can be the future of every nation. The establishment of a free Iraq at the heart of the Middle East will be a watershed event in the global democratic revolution." George W. Bush, "President Bush Discusses Freedom in Iraq and the Middle East," press release, White House, 6 November 2003.

[11] For the costs involved, see Jason W. Davidson, "The Costs of War to United States Allies since 9/11," Watson Institute Working Paper, Brown University, 12 May 2021.

[12] Joseph Stieb, *The Regime Change Consensus: Iraq in American Politics, 1990–2003* (Cambridge, UK: Cambridge University Press, 2021), 1–2, https://doi.org/10.1017/9781108974219.

[13] For a brief discussion of the colloquial usage, see " 'I Have a Theory . . .'. What Do I Really Have?" StackExchange: English Language & Usage, accessed 3 February 2024.

light of research."[14] Theoretical understandings often also serve as a point of departure for developing foreign policy.

Theory, for this article, includes assumptions and concepts for which the individual holding the assumption has very little—and perhaps very bad—evidence in support of what might be considered an assumption based on limited evidence.[15] This broad definition of theory is employed for three reasons. First, Seawright and Collier's definition emphasizes that theories can be "conceptual," clearly implying theories can be theories even if they are undeveloped and inchoate. They state a theory can be a "point of departure," suggesting theories exist at the beginning, and not only at the end, of a social science investigation. *Rethinking Social Inquiry* is a well-regarded text in the field for these reasons.[16]

Though the distinction between assumptions and theories is critical for theory development, assumptions and theories cannot be distinguished in and of themselves, and this article treats assumptions as theories in most respects. Any assumption can be described as a testable theory, and any theory could be converted to an assumption. Gary King, Robert O. Keohane, and Sidney Verba take this perspective in *Designing Social Inquiry.*

> Simplifications are essential in formal modelling, as they are in all research, but we need to be cautious about the inferences we can draw about reality from

[14] Seawright and Collier use this definition in Henry E. Brady and David Collier, eds., *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, 2d ed. (Lanham, MD: Rowman & Littlefield, 2010), 354. The author uses the term *explanatory* to describe what might come to pass in the future, which is a plausible and applicable perspective on this element of their definition.

[15] There is probably no assumption in international security that is completely unmotivated by evidence, albeit potentially grossly misapplied and magnificently limited evidence. A leader who believes "I just know they'll give in," is motivated by some memory of a past example or some concept of how international bargaining works. Nuclear deterrence theory, at its earliest stages, was not based on past evidence, as discussed below. Early deterrence theorists (e.g., Thomas C. Schelling) used their knowledge of history and conventional crisis bargaining to speculate on what might happen in diplomatic exchanges between nuclear powers. They were still using history and evidence from conventional military conflicts to try to arrive at policy recommendations for nuclear confrontations. See, for example, Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University 1980); and Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008).

[16] *Rethinking Social Inquiry* is sometimes assigned in graduate methods classes, such as Brown University PhD program's introduction to methods, for example. The author thanks Brian Hasse for this insight.

> the models. For example, assuming that all omitted variables have no effect on the results can be very useful in modelling. In many of the formal models of qualitative research that we present throughout this book, we do precisely this. Assumptions like this are not usually justified as a feature of the world; they are only offered as a convenient feature of our model of the world. The results, then, apply exactly to the situation in which omitted variables are irrelevant and may or may not be similar to results in the real world. *We do not have to check the assumption to work out the model and its implications, but it is essential that we check the assumption during empirical evaluation. . . .* [W]e cannot take untested or unjustified theoretical assumptions and use them in constructing empirical research designs.[17]

Second, the broad use of theory employed in this article is in accord with common usage in international relations research. "Theory of victory" is one example, where theory simply refers to a hypothetical chain of events during a conflict that could lead to military victory, potentially without any empirical reference at all. Rand's 2024 monograph *U.S. Military Theories of Victory for a War with the People's Republic of China* defines *theory of victory* on the opening page: "a theory of victory is a causal story about how to defeat an adversary."[18] There is no mention of evidence, only that a theory of victory tells a plausible causal tale about how to reach a political objective using military force. The report offers other scholarly examples that make similar usage of the term theory.[19]

Colin S. Gray's 1979 article "Nuclear Strategy: The Case for a Theory of Victory" also uses the term theory of victory, as the Rand

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[17] Gary King, Robert O. Keohane and Sidney Verba, *Designing Social Inquiry: Scientific Inference in Qualitative Research* (Princeton, NJ: Princeton University Press, 1994), 106. Emphasis added. The author reads "omitted variables" as similar to "assumptions" in theory lexicon.

[18] Jacob L. Heim, Zachary Burdette, and Nathan Beauchamp-Mustafaga, *U.S. Military Theories of Victory for a War with the People's Republic of China* (Santa Monica, CA: Rand, 2024), 1, https://doi.org/10.7249/PEA1743-1.

[19] Heim, Burdette, and Beauchamp-Mustafaga, *U.S. Military Theories of Victory for a War with the People's Republic of China*, 1–2.

report does, to refer to a causal tale. This same article also casually invents the term *counter-recovery theory* to refer to the belief held by some Soviet nuclear theorists that "recovery from [nuclear] war was an integral part of the Soviet concept of victory."[20] The counter-recovery theory Gray referenced in the pages of *International Security* is certainly not as well-grounded in empirical research and the real-world testing of hypotheses as, for example, the theory of plate tectonics. This Soviet counter-recovery theory would have to be based on either pure speculation and estimation, or on the single and vastly different example of Japan's recovery from two atomic attacks in World War II. Like Seawright and Collier, the authors of the Rand report and Gray use the word theory to refer to a causal concept without any empirical references. In short, the admittedly broad application of the term used here is commonly accepted in the field.

The third and final reason is strategic. By using the word theory to refer to even casual assumptions based on little evidence, the author intends to draw attention to the fact that military and foreign policies could be greatly improved if all limited-evidence assumptions, expectations, and predictions were treated as theories to be questioned and critiqued with as much rigor as time and resources allow. For many people, the term theory calls forth the methodological obligations of scientific investigation, the need to search for evidence, and the intent to apply one's capacities for critical assessment. Employing this word in its broader but accepted usage in political science may inspire readers to question their assumptions and expectations more rigorously.

This article also takes a somewhat simplified approach to explaining theorization, one that might be called naively positivist. Many or most policymakers are arguably motivated by multivariate theories, and this article simplifies the theorization process considerably. This simplification hopefully offers useful guidance to improve the assessment of military strategies and national security policies. A PME faculty developing curricula to address the topic of theorization would need to embrace a host of similar simplifications.

One of the most significant examples of the broad and col-

[20] Colin S. Gray, "Nuclear Strategy: The Case for a Theory of Victory," *International Security* 4, no. 1 (Summer 1979): 65–66, https://doi.org/10.2307/2626784. Emphasis omitted.

loquial use of the term theory in policymaking—and certainly at the presidential level—was President Richard M. Nixon's "Madman Theory," as Nixon dubbed his concept. In Richard Reeves's description, this theory consisted of Nixon's belief that "there was advantage in persuading adversaries, foreign and domestic, that there was something irrational about [Nixon], that he was a dangerous man capable of any retaliation."[21] Nixon's Madman Theory was based on a belief that an American president who cloaked himself in an image of unpredictability would enhance the United States' ability to deter the Soviets from acting aggressively, while also potentially generating diplomatic leverage. This theory was not expressly based on facts or history, but it was rather a product of Nixon's personal beliefs about ways to gain bargaining advantage, and these conjectures motivated an important part of his administration's foreign policy for a time.[22]

For some significant decisions, even if a leader were keen to learn from history, there may be a limited or nonexistent historical record of comparable events. In such a case, the theories that motivate policy may lack any historical grounding. For example, when President John F. Kennedy led the United States into uncharted policy territory during the Cuban Missile Crisis in 1962, he had recently read and "been impressed" by a memorandum written by Thomas Schelling.[23] Schelling's memorandum dealt with the manipulation of risk in international affairs to increase bargaining advantage, a concept he was developing at the time and that he fleshed out in his influential book *Arms and Influence*.[24] That book, which is now seen as Schelling's defining work on the topic, is based on speculative reasoning about what leaders might do in

[21] Richard Reeves, *President Nixon: Alone in the White House* (New York: Simon & Schuster, 2001), 57, 136. By one account, according to Nixon aide H. R. Haldeman, Nixon developed his Madman Theory during the 1968 campaign for the White House. Walter Isaacson, *Kissinger: A Biography* (New York: Simon & Schuster, 1992), 163–64.

[22] Nixon's efforts to appear unpredictable were targeted at the North Vietnamese and the Chinese, in particular, two critical Cold War interlocutors during his administration.

[23] Richard Reeves, *President Kennedy: Profile of Power* (New York: Simon & Schuster, 1993), 197. Rand published a declassified copy of a memorandum in 2021 that many believe to be the one in question. Thomas C. Schelling, *The Threat that Leaves Something to Chance* (Santa Monica, CA: Rand, 1959), https://doi.org/10.7249/HDA1631-1.

[24] Schelling, *Arms and Influence*.

hypothetical situations. In October 1962, the fate of the world may have hung on Schelling's hypotheticals.

Mobilizing Theories: General McChrystal's 2009 Assessment of Afghanistan

On 30 August 2009, General Stanley McChrystal was preparing to take command of North Atlantic Treaty Organization's (NATO) International Security Assistance Force (ISAF). To clearly communicate his understanding of the situation and his intentions to ISAF and the rest of the U.S. government, he offered an assessment of the current state of U.S. and Coalition strategy in Afghanistan. McChrystal's "Commander's Initial Assessment" quickly became a much-discussed document.[25] What makes the statement useful for PME faculty teaching theorization (and as a PME teaching example) is that the assessment was written by military officers, and it is a document full of brisk, arguably off-the-cuff theorization. Consider an early section that discussed some of McChrystal's planned goals. He argued that:

> We must grow and improve the effectiveness of the Afghan National Security Forces and elevate the importance of governance. We must also prioritize resources to those areas where the population is threatened, gain the initiative from the insurgency, and signal unwavering commitment to see it through to success. Finally, we must redefine the nature of the fight, clearly understand the impacts and importance of time, and change our operational culture.[26]

McChrystal's 2009 statement is partly inspiration for the troops and partly a senior officer's self-marketing, of course. Regardless, it states some of what McChrystal aspired to undertake as commander, and so offers a window into the pervasive role that theoretical reasoning plays in military policy.

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[25] The author does not claim that McChrystal rigorously reviewed the theories that underpinned his analysis. Furthermore, many officials at the time, including President Barack H. Obama, believed that McChrystal's statement was released partly to put pressure on the president to endorse the deployment of additional troops.
[26] Gen Stanley A. McChrystal, "COMISAF's Initial Assessment," memorandum to Secretary of Defense Robert M. Gates, 30 August 2009.

Take the goal to "elevate the importance of governance," which probably refers (at least in part) to how Afghan political leaders approached their roles as stewards of the Afghan nation and their responsibilities as national leaders.[27] The goals and actions implied by this phrase embrace a host of complicated theoretical assumptions and concepts. This proposal would be nothing less than an effort to alter the mindsets of many or all Afghans in government, to make that new mindset enduring, and to prevent other forces and elements within and without Afghan society from undermining those changes. That is an incredibly complex task.

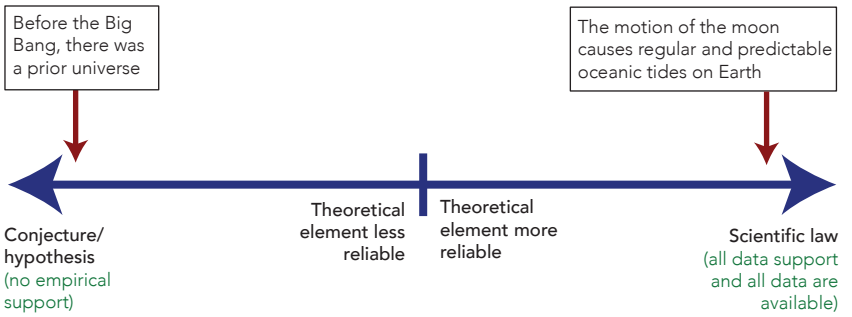
By what means might McChrystal assess progress toward the goals he has identified? A battalion of well-resourced cultural anthropologists would find predicting the likely outcome of such an initiative a daunting endeavor. Few members of the military are intellectually prepared to address these questions, and understandably so, since these questions are not the normal foci of a military organization. PME institutions, of course, have the opportunity to address this area, and are unique in this regard.

Other paragraphs of the commander's assessment offer equally complicated initiatives. Consider, in isolation, the paragraph's concluding reference to a need to "change our operational culture." Later in the assessment, McChrystal added that he hoped to change ISAF's operational culture with the goal of reducing the U.S. military's "pre-occup[ation] with protection of our own forces."[28] This goal embraces the complex task of convincing members of the U.S. military to reduce their deeply embedded culture of force protection—a task that is easily stated, but that would face a daunting array of obstacles.

Negative consequences could follow even an attempt to change the force protection culture of an organization. ISAF casualties could rise to an unacceptable level as a consequence. One could also ask if it is within the power of a theater commander such as General McChrystal—who, after all, is only the commander of forces that have been trained and sent to him by the military Services—to change his force's operational culture. It seems clear that McChrystal proposed this organizational recalibration to make

[27] This interpretation assumes that McChrystal wanted the "importance of governance" to be "elevated" in the minds of Afghan leaders. McChrystal may have had other parties in mind as well.
[28] McChrystal, "COMISAF's Initial Assessment," 1-1, 1-2.

Figure 1. Spectrum of theoretical reliability



Source: courtesy of the author, adapted by MCUP.

ISAF's interactions with Afghans less confrontational. But even if this initiative was perceived by Afghans in the way that McChrystal intended, it does not necessarily follow that the Afghans' new perception of ISAF would improve local or regional stability.[29]

Theoretical Reasoning and National Security

A theory refers to "a general statement that describes or explains the causes and effects of classes of phenomena."[30] In many respects, theories are not new to military officers or to PME institutions. Nuclear propulsion engineers learn to manage nuclear reactors by executing a course of instruction on nuclear power plant dynamics and the theories underpinning nuclear fission. Similarly, PME institutions may address many social science theories, such as international relations theory.[31]

Theories can have different levels of empirical support in the real world, as bluntly expressed in figure 1. On the left end of the spectrum of empirical support is pure hypothesis.[32] While we have limited empirical traction on the early universe—the 3K cosmic background radiation that was accidentally discovered in 1965 is a rare counterexample—we have no data on whatever did or did

[29] If McChrystal were able to alter force protection culture—a challenging task—even a perfect success might not lead to an improvement in the trajectory of the reconstruction effort.

[30] Stephen Van Evera, *Guide to Methods for Students of Political Science* (Ithaca, NY: Cornell University Press, 1997), 7–8.

[31] For many years, the U.S. Naval War College curriculum addressed the constructivist, realist, and liberal institutionalist schools of international relations theory.

[32] Since the physical sciences offer convenient references, examples are taken from cosmology and astronomy.

not exist prior to the Big Bang. In contrast, consider the right side of the spectrum. We know the timing of the Earth's oceanic tides are a consequence of synthesizing multiple theories (e.g., the law of gravity, the law of momentum as applied to orbits, and other theories).

One can—as presidents and military officers often do—take actions in the national security realm based on an unsupported conjecture, as discussed earlier. Some realms of national security policymaking, such as nuclear deterrence in the early stages of the Cold War, involved taking significant actions that were not based on comparable historical examples. To illustrate, figure 2 attempts to represent just a few of the many theoretical conjectures that could have informed President Kennedy's decision-making during the Cuban Missile Crisis.

The military option of an air campaign to eliminate the Soviet missiles in Cuba would put Kennedy's advisors in new theoretical territory. Neither superpower had conventionally attacked the nuclear forces of the other prior to 1962. Some deterrence theorists speculated that attacks on nuclear forces could be particularly destabilizing, since a nuclear nation could reasonably conclude that such attacks threatened that state's nuclear deterrent.[33]

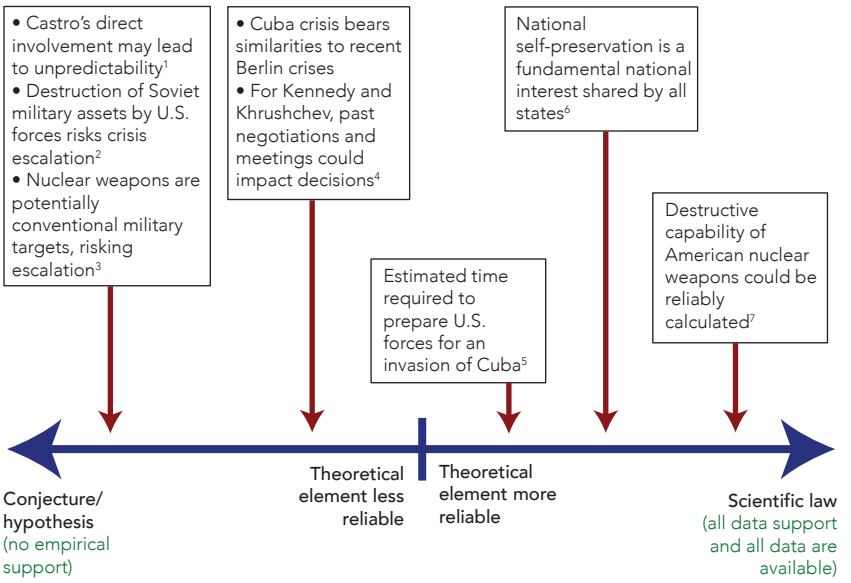
Returning to figure 2, on the right side of the empirical spectrum is the destructive capability of nuclear weapons. These weapons are the products of scientific development and testing, based on reliable understandings of how the physical components of the weapons interact. The weapons had been tested in monitored environments. Note the limited goal of the chart. Figure 2 is only intended to offer a notional illustration of how one might rank order the empirical foundations of the component theories involved in arriving at a policy decision.[34]

Near the middle of the spectrum on figure 2 is the mobilization time that would be required before American military forces could be ready to launch an invasion of Cuba. For example, at

[33] This could be a threat to either the physical integrity of the deterrent (the threat of destruction of nuclear military assets) or the psychological integrity of the deterrent (if the United States attacks Soviet nuclear forces in Cuba without reprisal, American leaders might feel greater latitude to do so in the future).

[34] For an example of the chart's imprecision: the three bulleted notional theories in the leftmost box are connected by a single arrow to the spectrum. There is no intuitive reason to believe the three theoretical references in the first box would correspond to the same point on the spectrum.

Figure 2. Spectrum of theoretical relability, with select Cuban Missile Crisis theoretical conjectures



[1] Cuban president Fidel Castro's involvement added an element of unpredictability. To offer evidence of this from the aftermath of the crisis, Castro resisted the removal of Soviet missiles following the missile-swap agreement between the United States and the USSR that ended the crisis. See Laurence Chang and Peter Kornbluh, eds., *The Cuban Missiles Crisis, 1962: A National Security Archive Documents Reader* (New York: New Press, 1992), 239–44.

[2] American forces had not engaged in direct combat with Soviet forces since the Russian Revolution of 1917. The escalatory danger that could result from large-scale conventional combat between two superpowers, in particular the risk of nuclear escalation, had no historical comparison.

[3] The destruction of a country's nuclear assets was believed to have particular escalatory potential, as discussed below. There were no prior examples of nuclear weapons being destroyed during conventional combat in the historical record.

[4] Kennedy and Soviet General Secretary Nikita Khrushchev had met before the crisis. They had also engaged in mutual strategic confrontations in prior cases, such as the Berlin crisis of 1961. As a consequence, there were past interactions from which they could attempt to extrapolate the other's likely behavior and motivations.

[5] American military officials could only estimate the time it would take to mobilize and position American forces for an invasion of Cuba. Mobilizations are chiefly physical processes, and mobilizations in general are often rehearsed. But maneuvering and readying the range of assets necessary to attack Cuba was a complex organizational feat, one that was vulnerable to delays. Some Executive Committee advisors from the National Security Council recognized this.

[6] Nations seek to survive, and that fact deeply influences the actions of states in international crises. That theoretical statement is based on a considerable record of international interactions, and is a more reliable theory than others to the left on the spectrum.

[7] A nuclear detonation and the resultant damage involve highly regular physical processes. Nuclear weapons are tested in monitored environments, and their behavior in combat is exactly the same as in a matching testing environment. This is the only theoretical element in this crisis that is nearly devoid of all human-centered uncertainty.

Source: compiled by the author, adapted by MCUP.

a meeting on 22 October 1962, Robert S. McNamara mentioned "several days" had been required to send additional U.S. Marines, and spoke of additional planned troop movements.[35] It is largely a physical process to engage in a mobilization of this sort, and as such might be expected to be highly predictable. But the organizational actions and routines for this specific mobilization had not been worked out, let alone rehearsed. Military officials had some basis from past experience on which to arrive at an estimate, but the outcome that would follow a mobilization order from the president was not as predictable as the physical outcome of the detonation of a nuclear weapon.

This discussion of figure 2 is intended to highlight the empirical foundation behind each theoretical element, as empirical support can be a vague proxy for the reliability of a theory. Even when scientifically minded individuals undertake to develop reliable theoretical guides for their recommendations, miscalculations can occur. Consider this example from Rand's Project Air Force, in which two analysts attempted to generate an aerial combat model for U.S. Air Force tactical training shortly after World War II.

> In 1949, Ed Paxson and another early systems analyst at RAND, Edward S. Quade, worked for many months on mathematical models of hypothetical air duels fought between fighter planes and bombers. After trudging through a tremendously large series of complicated equations, Paxson and Quade concluded that, with the right kind of fire-control systems, a fighter pilot could close in on a bomber at a certain optimal point, fire his weapon, and shoot the bomber out of the sky in six out of ten confrontations. After doing these calculations, Paxson and Quade compared their findings with real combat data from World War II. They found that in those cases where the fighter and bomber were in roughly the same geometric position that Paxson and Quade figured would give the fighter a 60 percent probability of a kill, the fighter pilot actually downed the bomber only 2 percent of the time. Why the huge difference between theoretical calcula-

[35] Ernest R. May and Philip D. Zelikow, ed., *The Kennedy Tapes: Inside the White House during the Cuban Missile Crisis* (Cambridge, MA: Harvard University Press, 1997), 260.

> tion and reality? They puzzled over this disparity for a few disturbing days, and finally conceded that a real pilot in a real airplane shooting real bullets does not so eagerly or easily close in on a big bomber. He takes a couple of shots perhaps, and then veers off. Doing anything more would be too dangerous.[36]

Three Opportunities to Critically Assess Theories

The following section, expanding on points made above, offers an approach to understanding the process of applying theories to national security situations. As discussed earlier, there are three primary opportunities to assess and potentially reconsider the theoretical foundations of a proposed policy:

- Clearly state the theory or theories,
- Assess the evidence in support of a theory or theories, and
- Identify and evaluate competing or contradicting theories.

This guide does not purport to be a reliable method for purging foreign policy proposals of theoretical error. It can only reduce the risk of overconfidence in one's preferred proposals, and increase the likelihood of recognizing theoretical shortcomings and critical countervailing factors. For each of these three reassessment opportunities, the author returns to McChrystal's assessment as an illustrative example.

State the Theory

By concretely and explicitly stating the theory (even a casually derived assumption based on limited evidence) that one intends to apply to a situation, one clarifies the causal factors and expectations involved, potentially illuminating unnoted weaknesses or gaps in reasoning. When PME institutions teach a methodological approach to planning Joint military operations, some programs highlight the criticality of scrutinizing the "commander's intent" that lies at the foundation of the operation.[37] In a similar fashion, having a detailed grasp of the theories involved in a policy proposal helps isolate the "theoretical intent."

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[36] Fred Kaplan, *The Wizards of Armageddon* (Stanford, CA: Stanford University Press, 1983), 88.

[37] At the Naval War College, the Joint Military Operations Department curriculum addresses commander's intent.

In the aforementioned example of the 2003 invasion of Iraq, consider if George W. Bush or his key advisors had stated in more concrete terms the processes by which a democratic Iraq would inspire democratic transitions in other countries in the region. A skeptic might ask why, precisely, Iraq's neighbors would be keen to change their political systems to mimic a Western political model, particularly one that was imposed on Iraq following an invasion. After a forced regime change that the international community had mostly condemned, Iraq's neighbors would be unlikely to even-handedly ask themselves if Iraq's new democratic model was appealing. And those nations would be far less likely to undertake a most profound transition of governance, which would involve autocratic leaders giving up power or populations suddenly inspired to launch a dangerous revolution where there had been no such impulse before, because America had militarily imposed such a transition on Iraq. These and other flaws in the theoretical reasoning behind the invasion were there to be found, as some academics discussed prior to the invasion.[38]

Any recommendation on national security policy involves a host of theories. To specify a theory, one identifies a specific phenomenon one wishes to explain or predict. This is the dependent variable (DV) because it is the outcome that is caused by, or depends on, another factor. After one is clear on the phenomena one wishes to explain or predict, one must then identify the factor or factors that are responsible for the potential changes observed in the DV. This is the independent variable (IV), the variable that is manipulated to impact the DV. One wishes to know the impact of the IV on the DV, independent of all other factors.

The IV is not likely to be truly independent, of course, in the stricter sense of the word. Independent variables are caused by and dependent on other factors as well. For the purposes of isolating causal factors to develop at least a notional theory, one must isolate—perhaps arbitrarily—a causal factor or independent variable.

After the analyst has established an independent and policy-relevant relationship between the two variables, one must consider the role of causality. How, specifically, does a change in the

[38] Among other examples, see Daniel W. Drezner, "Back to Iraq," *Foreign Policy*, 10 January 2003.

Figure 3. Independent and dependent variables

Source: courtesy of the author, adapted by MCUP.

independent variable determine whether there is a change in the dependent variable? Can we observe any factors that suggest a causal process? Elaborating on these causal linkages can help identify any dubious links in the hypothesized causal process. Causality in international politics is certainly more complicated and dynamic than causality in chemistry, for example. But developing a military or foreign policy is impossible without thinking about the causal environment.

McChrystal's Assessment

Consider the excerpt from McChrystal's assessment regarding the reworking of ISAF's operational culture to reduce his force's preoccupation with force protection. This initiative involves a number of theoretical elements. For example, McChrystal would be ordering his force to shed some of the force protection training that they had received to date, including force protection techniques that individual service personnel or entire units had adopted as essential routine during previous deployments. Such a reworking of operational culture might not be unprecedented. It is not uncommon for units to find they need to learn new procedures or adapt to new weapons systems while on deployment.

But how feasible is it to reduce a force's ingrained procedures for something as fundamental as force protection? To gauge the likelihood of success, one would ask what parts of the military's organizational culture might resist or obstruct an effort to make the unit become "consciously risky" with the lives of personnel. There is certainly no reason to believe McChrystal intended to be cavalier with the lives of those under his command. But McChrystal's recommendation would increase the risk to soldiers' lives, and

reengineer elements of his units' organizational culture to do so. Executing such a change responsibly and without unnecessary risk would be a tall order.

And to engage in conjecture, what would be the ultimate benefit of this approach? McChrystal does not explain why his recommendation would have a positive impact on the reconstruction effort. But his underlying assumptions very likely include: 1) the Afghan population resented at least some of ISAF's force protection measures, 2) a lessening of these force protection measures would be understood by Afghans to be an ISAF adjustment intended to placate the Afghan population, and 3) this perception by the Afghans would lead to a decrease in friction between ISAF and the Afghans, and, consequently, improve Afghanistan's stability. Here is a concrete example of how plainly stating the theory can, in and of itself, highlight unstated causal expectations and indicate links in the causal chain that may merit additional scrutiny.

To speculate further, would the Afghans perceive ISAF's changed approach to force protection? McChrystal is hoping that Afghans would take note of a series of nonevents, such as occasions when ISAF soldiers do *not* inhibit commerce or travel (when they would have inhibited travel prior to the policy change), as well as occasions when ISAF did *not* intercept and search vehicles and persons as often or as thoroughly as they had previously, and the like.

But there are other possible rationales that Afghans might seize on to explain ISAF's reduced force protection efforts. The Americans could be reducing their activity in the area to avoid exposure to Taliban attacks or some other threat. Or, alternately, Afghans might conclude that ISAF no longer had the means to support the previous approach to force protection. In other words, instead of seeing force protection changes as a reason to positively reappraise ISAF, successful force protection changes could be seen by Afghans (correctly or incorrectly) as instead an indication of a weakening of ISAF, and not as a friendlier new policy.

This discussion of McChrystal's proposal has arguably been biased toward pessimistic conclusions. While that may be true, if there is a foreign policy endeavor for which one might prudently err in the direction of expecting poor outcomes, it is the forceful occupation and social reconstruction of a society by an outside

power. Clearly stating the theoretical foundations of a policy opens the door to such potentially life-saving skepticism, and improved PME education in this critical area could be invaluable to officers in the field.

Assessing the Evidence in Support of a Theory

All human beings have cognitive biases, and it is important to do the best one can to avoid steering analyses toward preferred conclusions.[39] That is far more easily said than done, and national security policy may be an area that is particularly susceptible to biases. Fear of aggression and suspicion of adversaries are sentiments that are common in international relations, and those factors can profoundly influence one's assessment. And sometimes bias can seem like prudence in retrospect. Winston Churchill is often celebrated for his intuition regarding Adolf Hitler's motives before World War II broke out, but it may have been his lifelong suspicion of Germans—and not his sagacity—that inspired his eagerness to steer Britain toward opposing Germany in the late 1930s.[40]

Addressing the following questions could improve an assessment of applicable evidence:

- How strong is the evidence in support of the theory? How clear are the narratives in relevant historical examples? During the war over Kosovo in 1999, one of the unstated assumptions that led Western policymakers to believe that Slobodan Milošević would back down if NATO attacked was the belief that Milošević did not highly value Kosovo. Some Western officials believed that Milošević's concessions in Bosnia in 1995 were the consequence of NATO military action and not the consequence of ground advances by Bosnian and Croat forces. That conclusion overlooked important differences between the 1995 and 1999 conflicts, however. Kosovo was home to the Field of the Blackbirds,

[39] Nikolas K. Gvosdev, Jessica D. Blankshain, and David A. Cooper, *Decision-Making in American Foreign Policy: Translating Theory into Practice* (Cambridge, UK: Cambridge University Press, 2019), https://doi.org/10.1017/9781108566742, offers a discussion of cognitive biases. See ch. 4, "Cognitive Perspective," 88–124.
[40] For a discussion of Churchill's suspicions of Germany from the moment he became First Lord of the Admiralty in October 1911, and how he viewed Germans as "l'ennemi," see John Charmley, *Churchill: The End of Glory* (New York: Harcourt Brace, 1993), 72–76.

part of the site of the Battle of Kosovo in 1389, and so a place a tremendous historical significance for the Serbs.[41] That and other historical considerations, had they been taken into account by policymakers, could have spurred a broader reassessment of whether the 1995 example truly suggested that Milošević would relent in the face of NATO airstrikes in 1999.

- Is the evidence supporting the theory, or the reason that one believes the theory is correct, based on a single example or multiple cases?[42] Are there other relevant cases that have been overlooked, even if they undermine the preferred policy? In other words, self-evaluation in this area demands that one ask if selection bias played a role in the review of comparable historical cases.[43] If there are one or more cases that contradict the theory, one should ask if those cases can be safely ignored. A theory can be simultaneously well-supported during decades of history and irrelevant for the specific policy decision at hand.
- What role does counterfactual reasoning play in an assessment, and how reliable is that reasoning? Counterfactuals are estimations of what would have happened if the historical chain of events had been altered in one or more respects. Historians have asked if President John Kennedy would have avoided escalating American involvement in Vietnam had he not been assassinated. Addressing this counterfactual, Stephen Knott argues Kennedy might have declined to increase America's military commitment to South Vietnam. Knott observes "Maxwell Taylor [then Chairman of the Joint Chiefs of Staff] . . . could not recall anyone who was strongly against deploying combat troops [to Vietnam] 'except one man and that was the President. The President just didn't want to be convinced that this was

[41] Tim Judah, *Kosovo: War and Remembrance* (New Haven, CT: Yale University Press, 2000), 4–8.

[42] The risk of relying on preferred cases, or analogies, is discussed in Yuen Foong Khong, *Analogies at War: Korea, Munich, Dien Bien Phu, and the Vietnam Decisions of 1965* (Princeton, NJ: Princeton University Press, 1992).

[43] For an overview of selection bias and a guide to further references, see Kris Inwood and Hamish Maxwell-Stewart, "Selection Bias and Social Science History," *Social Science History* 44, no. 3 (2020): 411–16, https://doi.org/10.1017/ssh.2020.18.

the thing to do'." If Taylor was correct, American military escalation in Vietnam might have been avoided, had the assassination attempt failed.

  - Counterfactuals are more reliable when they more closely align with the historical record. Philip E. Tetlock and Aaron Belkin, among others, promote the "minimal rewrite of history" rule: the smaller and more easily imagined the proposed change to the historical record, the more realistic the counterfactual argument.[44] In the above example with Kennedy, the alternate reality in which Kennedy lived through his first term is a highly plausible alternative, since it only requires a few missed shots from Lee Harvey Oswald to bring about the counterfactual scenario. In contrast, the counterfactual "What if Richard Nixon had won the 1960 presidential election?" requires a more significant alteration of the historical record, in this case a different electoral outcome in 1960.

- Is there evidence that organizations or individuals that support the proposed policy have a desire or interest in reaching a specific conclusion? Leaders and their advisors may unwittingly bring organizational biases into their assessments of evidence. General William C. Westmoreland believed enemy body counts were a reliable gauge of progress in the effort to stabilize South Vietnam, and he was only interested in theoretical assessments of progress that relied on this metric. Westmoreland never fully grasped the importance of North Vietnamese motivation on the conflict, and he did not understand how this resolve insulated the North's decisionmakers from the potential coercive impact of North Vietnamese casualty figures.[45] Organizational biases for particular metrics or preferred approaches can have a highly detrimental impact on decision-making processes, a

[44] Philip E. Tetlock and Aaron Belkin, eds., *Counterfactual Thought Experiments in World Politics: Logical, Methodological, and Psychological Perspectives* (Princeton, NJ: Princeton University Press, 1996), 23.

[45] For the argument that Westmoreland "never understood this reality," in Stanley Karnow's words, see Karnow, *Vietnam: A History* (New York: Penguin Books, 1983), 478.

conclusion already found in at least one PME curriculum.[46]

McChrystal's Assessment

Turning again to McChrystal's intent to improve Afghanistan's stability, what evidence might be used to evaluate the probability that events would play out as McChrystal hoped they would? There are past examples of smooth reconstruction processes that supporters of McChrystal's approach might point to. John W. Dower's study of the post-World War II American occupation and political reorientation of Japan, *Embracing Defeat*, explains how Japanese resistance to American occupation was almost nonexistent.[47] Once Emperor Hirohito announced his government's surrender, the Japanese accepted that the war was over almost overnight. One could offer this as evidence in support of McChrystal's theory, as an example of a violent conflict that transitioned into a peaceful and successful reconstruction. But this comparison masks critical differences between postwar Japan and post-invasion Afghanistan. After World War II, the Japanese sought to resurrect what had been a homogeneous and cohesive industrial society, not to create a national society where none had previously existed—a profound contrast to the United States' chosen task in Afghanistan.

After the defeat of al-Qaeda and the Taliban in Afghanistan in 2002, American civilian and military leaders briskly decided that it was possible to create a border-to-border federal government in Afghanistan. George W. Bush, in his memoir, declared that "we had a moral obligation to leave behind something better" by installing a national and democratic government.[48] There is room to conclude that American leaders arrived too casually at the conclusion that a postwar creation of an Afghan sense of nationhood was achievable, without asking what evidence they had to support this conclusion. The Soviet failure to pacify and stabilize Afghanistan during their invasion from 1979 to 1989 is a potent example of Afghans' ability and willingness to resist outside powers.

A post-withdrawal summary report of the Special Inspector

[46] In its Foreign Policy Analysis course, the Naval War College offers course material on organizational biases and the impact of biases on assessments.
[47] John W. Dower, *Embracing Defeat: Japan in the Wake of World War II* (New York: W. W. Norton, 2000).
[48] George W. Bush, *Decision Points* (New York: Crown, 2010), 205.

General for Afghanistan Reconstruction (SIGAR) avoids assessing whether a stable Afghanistan was ever within the realm of the possible, stating "[w]hether a different outcome could have been achieved is a question for history."[49] However, that report concludes with a note of pessimism regarding American capability in future reconstruction efforts, even after 20 years of reconstruction-focused organizational learning: "Any future U.S. reconstruction mission similar in scale and ambition to that in Afghanistan is likely to be difficult, costly, and defined by a real possibility of an unfavorable governance outcome."[50]

Identify and Evaluate Contrasting or Contradicting Theories

The third opportunity to reassess the theoretical basis of a policy decision is to explore the possible impact of alternative theories, with a focus on identifying causal factors that might prevent a preferred outcome. For example, one could ask if political or organizational priorities within a government or agency led to an inadequate consideration of alternative theories. Cabinet members may fail to fully assess alternative theories if they become aware that a prime minister or president prefers a particular policy option. This is one of the reasons John Kennedy absented himself from early deliberations of the Executive Committee during the Cuban Missile Crisis, to avoid having his presence inadvertently prejudice discussions.

- What are the obvious alternative theories, and how might those alternatives also find support in the historical record? During the reconstruction of Afghanistan, there were scholars offering alternative theories regarding the serious limitations on American capability to impose or inspire lasting change in Afghan society. In *Preponderance in U.S. Foreign Policy*, Graham Slater argues that the United States has, since 1945, shown a tendency to overestimate the extent to which American power can be used to alter the politi-

[49] *Why the Afghan Government Collapsed*, SIGAR 23-05-IP (Crystal City, VA: Special Inspector General for Afghanistan Reconstruction, 2022), 51.
[50] *Why the Afghan Government Collapsed.*

cal and social environments of other nations.[51] Rory Stewart and Gerald Knaus, in *Can Intervention Work?*, argue that the Coalition that sought to remake Afghanistan could not make progress because "the international community lacked the knowledge, the power and the legitimacy to engage in politics at the local provincial level."[52] Stewart and Knaus observe that the U.S.-led Coalition also had no reliable metrics of progress, and so it was impossible to know when efforts were succeeding or failing.[53]

- The 1999 air war over Kosovo offers another example. During Operation Allied Force, President William J. Clinton and his advisors believed that NATO air attacks on the Serbian military and other targets would convince President Slobodan Milošević to stop the Serbs' oppression of Kosovar Albanians. According to Richard Holbrooke, the foundation for this prediction was a single case: Milošević's decision to relent when faced with Western airpower in 1995, when NATO bombing led to the Dayton Accords.[54]
- But Milošević did not follow NATO's expectations in 1999. When the bombing began, the Serbs did the opposite of what the Clinton administration expected, and instead escalated their deprivations on the Kosovar Albanians. Rather than pressure Belgrade to stop their attacks on non-Serbs in Kosovo, NATO had instead inadvertently created what the Serbs saw as an opportunity to eliminate the Kosovo Liberation Army and gain leverage over NATO in any final settlement.[55] Because the alliance failed to consider alter-

[51] Graham Slater, *Preponderance in U.S. Foreign Policy: Monster in the Closet* (Lanham, MA: Lexington Books, 2018).
[52] Rory Stewart and Gerald Knaus, *Can Intervention Work?* (New York: W. W. Norton, 2012). This volume was published after McChrystal's assessment, but it exemplifies the alternative theories one might have looked for.
[53] For an overview of anthropologists' reservations regarding Afghanistan's post-invasion prospects, see Alexander Star, "What the Anthropologists Say," *New York Times*, 18 November 2011.
[54] Richard Holbrooke concluded that the 1995 negotiations to end the fighting progressed only once NATO bombs began to fall, saying the bombing "made a huge difference." See Holbrooke, *To End a War* (New York: Modern Library, 1999), 104. Many argue that is was actually Croat and Bosnian military advances, and not NATO airstrikes, that changed Milošević's mind in 1995.
[55] Stephen T. Hosmer, *Why Milosevic Decided to Settle When He Did* (Santa Monica, CA: Rand, 2001), 25–29.

native theories of how Milošević would respond to a coercive effort, NATO found itself engaged in a coercive air campaign with no guarantee that Milošević could be successfully coerced.[56]

McChrystal's Assessment

It is not hard to identify countertheories to McChrystal's proposed theory of how a recalibration of force protection procedures could reduce the friction generated by the American-led reconstruction effort. Afghans might fail to perceive the change in ISAF procedures, as discussed earlier. While not speaking directly to the issue of how Afghans perceived their occupiers after 2001, Barnett R. Rubin notes in his history of Afghanistan that Afghan resistance to outside governance in the past had always "frustrated the various foreign plans" for a unified country.[57] In April 2002, as the Taliban's resistance crumbled, Pashtun mujahideen leader Gulbuddin Hekmatyar told a reporter from the *New York Times* that "we prefer involvement in internal war rather than occupation by foreigners."[58]

Conclusion

It is impossible to eliminate the use of theoretical guesswork in military affairs and national security policy. The theories that inform even well-considered decisions are often inchoate, and the time-constrained and politically influenced processes by which governments arrive at decisions require them to quickly assess a wide array of unmeasurable factors. Even when time for careful assessment is available, abstract theorization is usually unavoidable. Professional military education is the vital—and probably the

[56] For example, Robert Pape's book on coercion, published in 1996 and widely read prior to Operation Allied Force, would have offered reasons to doubt the wisdom of the strategy. Pape predicts that punishment strategies like the one NATO used in 1999 are likely to fail. Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996); and Andrew L. Stigler, "A Clear Victory for Air Power: NATO's Empty Threat to Invade Kosovo," *International Security* 27, no. 3 (Winter 2002/3): 124–57.

[57] Barnett R. Rubin, *The Fragmentation of Afghanistan: State Formation and Collapse in the International System*, 2d ed. (New Haven, CT: Yale University Press, 2002), 248–57. Quotation from p. 255. The first edition was published in 1995, prior to the American invasion.

[58] Stephen Tanner, *Afghanistan: A Military History from Alexander the Great to the War against the Taliban* (Philadelphia, PA: Da Capo Press, 2002), 320.

only—opportunity to offer instruction to military officers on this critical element of the profession.

The importance of policy-relevant theorization may be best illustrated by the dramatic shift in Dwight D. Eisenhower's thinking on the subject of nuclear deterrence. As a five-star general during World War II, Eisenhower believed that nuclear weapons had no military utility, should never to be used, and that the bomb was an "awful thing." By October 1953, when Eisenhower was in the White House, his New Look strategy argued that nuclear weapons were eminently usable, and even embraced them as the first line of defense.[59] President Eisenhower had reconsidered and rejected General Eisenhower's theories, and the president had arrived at a very different strategic perspective. His new perspective must have been largely the result of a shift in his theoretical reasoning about the potential military and strategic role of atomic weapons. There had been no uses of atomic weapons since 1945, so there was no new data from the employment of nuclear armaments that could have led to the change in the president's thinking. Eisenhower had given more thought to the role of nuclear weapons, and changed his mind. Even if he adopted the new posture on nuclear weapons partly or largely as a bluff, as some have suggested, it still marked a significant shift in perspective.[60]

Theories are no less important today. Consider how the United States may have inadvertently embraced the risk of future terrorist attacks when American naval forces retaliated against Houthi groups interfering with international shipping in January 2024.[61] One of the many lessons from the 9/11 attacks is that violent military measures used to confront immediate threats can generate long-term resentments, which subsequently foster terrorism years or decades later. In a 2001 manifesto justifying terrorism against Western nations, Osama bin Laden cited perceived American of-

[59] Martin J. Sherwin, *Gambling with Armageddon: Nuclear Roulette from Hiroshima to the Cuban Missile Crisis* (New York: Alfred A. Knopf, 2020), 79–81. See also Saki Dockrill, *Eisenhower's New Look National Security Policy, 1953–1961* (New York: St. Martin's Press, 1996), 53–58.

[60] For the argument that Eisenhower's nuclear posture was a bluff, see Evan Thomas, *Ike's Bluff: President Eisenhower's Secret Battle to Save the World* (New York: Back Bay Books, 2013).

[61] Joseph R. Biden, "Statement from President Joe Biden on Coalition Strikes in Houthi-Controlled Areas of Yemen," press release, White House, 11 January 2024.

fenses against the Muslim *ummah* dating from the 1980s and earlier.[62] The fact that it is hard to confront threats in the international arena without generating resentments does not mean that it is wise to always ignore the potential future strategic impact of those resentments. How seriously did Biden's aides assess the alternative theory that, in the 2024 example of Yemen, the long-term risks of generating terrorism actually outweighed the immediate regional deterrence benefits? One might speculate that Biden and his advisors did not engage in any such assessment, making this another example of the casual acceptance of conventional theoretical wisdom.

National security professionals often have little time in which to do their best to assess the theoretical aspects of the situations they encounter, and to estimate, in as structured a way as possible under the circumstances, the quality of their underlying theorization. Decisions must often be arrived at rapidly—a caveat that is particularly true for military officers—and often decisions must be taken on the basis of incomplete information. The resulting decision must then be confidently communicated to the government or military unit. But if the need for speed and decisiveness overwhelms the need to think as deliberately as possible about the theories that form the foundation of a decision, the policy in question may suffer. Professional military education offers one of the scarce opportunities to prepare officers to engage in deliberate theoretical assessment, assessment that is critical to their success in both strategic and operational duties.

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[62] Bruce Lawrence, ed., *Messages to the World: The Statements of Osama bin Laden* (London: Verso, 2005). See ch. 11 for the October 2001 bin Laden statement titled "Terror for Terror."

MISSION-CRITICAL COMMUNICATION

A Proposal to Teach Interpersonal Communication Skills at The Basic School

Major Timothy J. Morris, U.S. Marine Corps Reserve

Abstract: Institutionally, the U.S. Marine Corps views interpersonal communication skills as essential for effective leadership. Unfortunately, there is an imbalance between the Marine Corps' high expectations for communication skills and the communication skills training it provides. To correct this imbalance within the officer corps, the author proposes that The Basic School add instruction devoted to public speaking, delivering feedback, and leading difficult conversations. The proposal draws heavily from the field of leadership communication, including books, articles, graduate school courses, and existing Marine Corps training.

Keywords: U.S. Marine Corps, Department of Defense, leadership communication, interpersonal communication skills, public speaking, feedback loops, difficult conversations, professional military education, PME, military training, curriculum design, adult education, professional development

Introduction

For more than 2,000 years, communication skills have been taught to pupils around the world. In one of the earliest recorded exam-

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ples, Aristotle's students at the ancient Greek Lyceum learned how to persuade an audience by studying pathos, logos, and ethos (a.k.a. the rhetorical triangle).[1] During the intervening millennia, communication and leadership scholars have produced a significant body of work aimed at teaching individuals how best to communicate with, motivate, and lead their teams. This article uses Gail Fairhurst and Stacey Connaughton's term for *leadership communication*, to refer to the broad field of study that places communication skills at the center of effective leadership.[2] Additionally, this article will use the umbrella term *communication skills training* to refer to the variety of graduate schools and industry training programs that teach skills such as public speaking, delivering critical feedback, active listening, building rapport and trust, persuading an audience, leading difficult conversations, motivating teams, and using narrative to build resilience. Writing skills, despite being a critical component of communication, are not included in this proposal. Although it would be relevant to examine the state of communication training throughout the Department of Defense (DOD), this article focuses more narrowly on the communication skills training provided to U.S. Marine Corps officers, specifically newly commissioned lieutenants.[3]

Regardless of military occupational specialty (MOS), when a newly commissioned Marine Corps officer arrives to the Fleet Marine Force, they must rely on their leadership communication skills. Unlike many of their civilian workforce peers, Marine Corps second lieutenants immediately fill "middle management" positions that can place them in charge of 30 or more individuals. In many Fortune 500 companies, it would take years, even a decade-plus, for an employee to work their way up to the same level of responsi-

[1] Carlo Natali, *Aristotle: His Life and School* (Princeton, NJ: Princeton University Press, 2013), 26.

[2] Gail T. Fairhurst and Stacey L. Connaughton, "Leadership: A Communicative Perspective," *Leadership* 10, no. 1 (2014): 7–35, https://doi.org/10.1177/1742715013509396.

[3] For a non-Marine Corps example, note the Air Force edited volume Megan J. Hennessey, ed., *Developing Military Learners' Communication Skills: Using the Scholarship of Teaching and Learning* (Maxwell Air Force Base, AL: Air University Press, 2022).

bility.[4] For Marine Corps officers, however, commanding a platoon is merely the launching point of a career where success rests on communication skills. As a recent article published in *International Perspectives on Military Education* noted:

> According to research conducted at Harvard and Stanford Universities, only 15 percent of [a military officer's] career success is provided by the hard skills, while the other 85 percent comes from so-called soft skills. In this context, we can consider that "soft skills get little respect but will make or break your career."[5]

Successful platoon commanders must apply "soft skills" to execute many of their responsibilities. They must deliver formal and informal feedback, build rapport and trust with their Marines, address interpersonal conflict, and lead difficult conversations on topics ranging from combat death to mental health issues. Although each lieutenant's experience will vary, all are expected, at a minimum, to address groups of Marines in public and to deliver one-on-one feedback to their sergeants and staff noncommissioned officers (many of whom have more time in service than the lieutenant) in private. In light of these high expectations, it is worth asking: How does the Marine Corps teach its lieutenants the leadership communication skills that are so critical to their careers?

The Basic School (TBS) serves as the six-month basic officer course that all Marine lieutenants attend after commissioning and prior to MOS school. The mission of TBS is to train newly commissioned officers to "prepare them for duty as company grade officers in the operating forces, with particular emphasis on the duties, responsibilities, and warfighting skills required of a rifle platoon commander."[6] With how important communication skills are to platoon commander duties, it is surprising that stand-alone commu-

[4] At large investment banks like J. P. Morgan Chase, for example, vice presidents who have been with the company 10 or more years could expect to lead as many as 30 individuals. Sean Ross, "The Hierarchy of an Investment Bank," *Investopedia*, 9 August 2024.

[5] Maroua Cherni and Feten Slimeni, "Soft Skills in Favor of Advanced Military Education," *International Perspectives on Military Education* 1 (2024): 76–101, https://doi.org/10.69977/IPME/2024.004.

[6] "The Basic School: Mission," TBS.Marines.mil, accessed 10 June 2025.

nication skills instruction is absent from the TBS curriculum.[7] It is even more surprising when one considers that, institutionally, the Marine Corps views communication skills as essential for effective leadership. For example, "Communication Skills" is 1 of only 14 attributes that the Marine Corps deems important enough to evaluate on the fitness report.[8] Additionally, Marine Corps doctrinal publications such as *Warfighting* (Marine Corps Doctrinal Publication [MCDP] 1) and *Planning* (MCDP 5) highlight the essential role that communication—both implicit and explicit—plays in a commander's ability to deliver intent and mission-type orders.[9] Despite acknowledging that communication skills are critical for an officer's success, the Marine Corps does not provide its lieutenants with stand-alone instruction in public speaking, delivering feedback to subordinates, or leading difficult conversations before they command a platoon.

The author proposes that TBS teach communication skills to address the institutional imbalance between the Marine Corps' expectations of a new platoon commander's communication skills (which are rightfully and necessarily high) and the communication skills training provided to newly commissioned officers (which is nearly nonexistent). The author proposes three areas from the field of leadership communication that TBS can integrate into its curriculum: public speaking, delivering constructive feedback, and leading difficult conversations. Additionally, the author offers potential options for reducing the current curriculum to allow for additional communication skills training. Throughout the article, the author draws from existing civilian and military communication skills training programs. The civilian programs include a Stanford University course titled Interpersonal Dynamics and a book in the *Harvard Business Review*'s 20 Minute Manager Series titled *Difficult Con-*

[7] With permission from the TBS curriculum department, the author reviewed the "Basic Officer Course (Blank Slate) Program of Instruction v2024," a nearly 800-page document that details each event in the TBS program of instruction.

[8] The other 13 attributes evaluated on the fitness report include performance, proficiency, courage, effectiveness under stress, initiative, leading subordinates, developing subordinates, setting the example, ensuring the well-being of subordinates, professional military education, decision-making ability, judgment, and evaluations. *Navy and Marine Corps Publication 10835, United States Marine Corps Fitness Report* (Washington, DC: Headquarters Marine Corps, rev. 7-11).

[9] *Warfighting*, MCDP 1 (Washington, DC: Headquarters Marine Corps, 1997), 79; and *Planning*, MCDP 5 (Washington, DC: Headquarters Marine Corps, 1997), 87–88.

versations.[10] The military programs include courses designed by Marine Corps Recruiting Command (MCRC) to teach its leaders effective communication skills.

The following proposal is divided into four sections—Identifying and Analyzing the Problem, Application of Solution, Analysis of Solution, and Counterarguments—and a conclusion. In Identifying and Analyzing the Problem, the author examines the consequences of the imbalance between the Marine Corps' high expectations for officer communication skills compared to the minimal training that officers receive. In Application of Solution, the author presents three proposed training modules—one in public speaking, one in delivering feedback, and one in leading difficult conversations—for inclusion in the TBS curriculum. In Analysis of Solution, the author lays out why this proposal can be effective, such as the low bar for communication training that currently exists in the Marine Corps. The Counterarguments section addresses some likely objections to this proposal, for example, that there is simply not enough time at TBS for additional coursework. Finally, the author concludes by acknowledging some of the proposal's limitations and suggesting areas for further exploration.

Identifying and Analyzing the Problem

In 1999, the 31st Commandant of the Marine Corps, General Charles C. Krulak, ushered in the modern Performance Evaluation System (PES). During the ensuing years, the Marine Corps has used a standard administrative form—*Navy and Marine Corps Publication (NAVMC) 10835, Fitness Report*—to evaluate every Marine above the rank of corporal on 14 attributes, one of which is communication skills. Marines are evaluated against the following communication skills criteria:

> COMMUNICATION SKILLS. The efficient transmission and receipt of thoughts and ideas that enable and enhance leadership. Equal importance given to listening, speaking, writing, and critical reading skills. Interactive, allowing one to perceive problems and situations, provide concise guidance, and express complex ideas in a form easily understood

[10] "Interpersonal Dynamics," Stanford Graduate School of Business, accessed 10 June 2025; and various titles, HBR 20-Minute Manager Series (Boston, MA: Harvard Business Review Press, 2014–16).

> by everyone. Allows subordinates to ask questions, raise issues and concerns and venture opinions. Contributes to a leader's ability to motivate as well as counsel.[11]

The institutional importance of communication skills is underscored by the NAVMC's language stating that communication skills *enable* leadership. The connection between communication skills and leadership also aligns with the organizational culture of the Marine Corps. As many leaders have noted over the years, the Marine Corps is a "people business."[12] This aphorism highlights a fundamental truth about the Marine Corps: in every leadership position from squad leader to Commandant, a Marine's success hinges on their ability to effectively transmit and receive ideas and emotions to connect with others (and sometimes to get them to do difficult things they might otherwise not). As Hollywood actor and retired Lieutenant Colonel Rob Riggle put it, in the Marine Corps, "If you can't communicate effectively, you will not lead."[13] Through the fitness report's description of communication skills, the Marine Corps rightfully sets a high standard for its leaders. Unfortunately, the Marine Corps is deficient when it comes to training its newest officers to meet this standard.

The imbalance between expectations and training exists throughout the Marine Corps. TBS demonstrates one of the most acute examples of this imbalance, and—as the initial training ground for all Marine officers—it also offers one of the greatest opportunities for rebalancing. When each class of more than 200 newly commissioned second lieutenants attend TBS, they do not arrive with a common baseline in communication skills. They bring a wide variety of experiences from their upbringing, their undergraduate experience, and their commissioning source. TBS is meant to provide lieutenants with the baseline of skills they need to serve as a provisional rifle platoon commander in the Fleet Marine Force. The baseline is provided by a dedicated staff of civilian curriculum

[11] *Navy and Marine Corps Publication 10835*.
[12] MajGen William F. Mullen III, "A Warrior's Mind: How to Better Understand the 'Art' of War," *Marine Corps Gazette* (April 2019): 22.
[13] Rob Riggle quoted in Helio Fred Garcia, *The Power of Communication: Skills to Build Trust, Inspire Loyalty, and Lead Effectively* (Upper Saddle River, NJ: Pearson Education, 2012), xvi.

developers, Marine instructors, and support personnel who plan and deliver a 28-week program of instruction (POI). The POI includes classroom instruction, practical application events, written tests, physical fitness events, sand table exercises, field exercises, and evaluated student leadership billets.

As in most Marine Corps schools, the learning progression at TBS begins with formal instruction, then moves to practical application, and, finally, evaluation.[14] For example, land navigation is taught in the classroom, followed by multiple practical application exercises and a graded evaluation. Unfortunately, this progression is not used for communication skills. From day one of the POI, TBS instructors evaluate each student's communication skills on a "Billet Feedback Form" that borrows its "Communication Skills" section directly from the fitness report.[15] Students are evaluated on how well they "communicate . . . provide guidance . . . and express complex ideas in a way understood by everyone" while they hold a student billet.[16] But unlike land navigation, students receive no formal instruction before they are evaluated against the Marine Corps' standard for communication skills.

The imbalance between communication skills expectations and communication skills training at TBS is a problem for multiple reasons. First, evaluating a Marine's communication skills proficiency without training them to achieve the expected expertise goes directly against Marine Corps doctrine. Training and Education Command's *Systems Approach to Training (SAT) Manual* is the foundational document on which all Marine Corps schools and courses are built. The manual outlines a direct connection between training and evaluation, stating that "the purpose of conducting evaluation is to develop and implement a strategy for determining the effectiveness and efficiency of an instructional program."[17] Put another way, the only reason to evaluate a Marine within a school or course is to verify that prior instruction was effective.

In addition to contradicting doctrine, TBS's lack of communication skills training perpetuates the fixed-mindset fallacy that

[14] "Basic Officer Course (Blank Slate) Program of Instruction v2024," The Basic School, TBS.Marines.mil, accessed 1 December 2024.
[15] "Billet Feedback Form," The Basic School, TBS.Marines.mil, accessed 1 December 2024.
[16] "Billet Feedback Form."
[17] *Systems Approach to Training (SAT) Manual* (Quantico, VA: Training and Education Command, 2004), viii.

communication skills cannot be taught and that someone is either a "good communicator" or they are not.[18] As two commanders noted in a recent U.S. Army publication, this fallacy is not limited to the Marine Corps: "There is a common misconception about interpersonal skills being viewed as static, immutable, and inaccessible to growth and development."[19] This fallacy about communication skills can ripple out and negatively impact an officer's entire career. It can destroy individual initiative to improve one's own communication skills, and it can make coaching someone on their communication skills seem worthless. Most importantly, the lack of communication skills training at TBS permits lieutenants to become platoon commanders without ever explicitly practicing some of the most common leadership situations that will test their communication skills (e.g., fitness report counseling). In the next section, the author outlines the proposal to address the imbalance between communication skills expectations and training at TBS.

Application of Solution

To balance the Marine Corps' high expectations for officer communication skills with its officer communication skills training, TBS should borrow from the field of leadership communication and add classroom instruction and practical application exercises in public speaking, delivering constructive feedback, and leading difficult conversations.

Leadership communication is a field of study that has been embraced by industries, universities, and individuals all over the world. One leadership communication scholar noted that "people recognize the value of effective communication, and [every year] they buy millions of books, line up for hours of training, take online courses and work with coaches all with the goal of improving the way they listen, connect, negotiate and live."[20] It would benefit newly commissioned lieutenants to deeply explore this literature—read entire books on effective communication, for example—but that is unrealistic for inclusion in TBS's curriculum. To create a nar-

[18] Carol S. Dweck, *Mindset: The New Psychology of Success* (New York: Ballantine Books, an imprint of Random House, 2006).
[19] Richard L. Farnell and Michael A. Hamilton, "Lead Them All: The Importance of Interpersonal Skills in Leading Diverse Teams," Army.mil, 7 April 2023.
[20] Jim Knight, "Better Conversations," *School Administrator* 73, no. 2 (February 2016): 39–41.

rower proposal, the author used their own platoon commander experience to conduct a job analysis of the platoon commander billet. As the *Systems Approach to Training (SAT) Manual* states, a job analysis is performed to "determine what the job holder must know or do on the job" to inform what training should be delivered at the job's preparatory school.[21] The author identified numerous individual tasks that require a platoon commander to use communication skills such as delivering a range safety brief, delivering a five-paragraph order, or conducting a fitness report counseling. The author then grouped the tasks into three types of communication that every platoon commander in the Fleet Marine Force is likely to execute.

The first is publicly addressing Marines (a.k.a. public speaking). This type of communication is required from a lieutenant's first meeting with their platoon and is a regular occurrence throughout their career. The second is delivering one-on-one feedback to a member of the platoon (a.k.a. delivering constructive feedback). This type of communication occurs during formal fitness report counseling sessions and informal one-on-one coaching interactions throughout the officer's career. The third is leading difficult conversations. This type of communication occurs whenever the officer needs to have a difficult or emotionally charged conversation with a Marine or group of Marines. Because of the high likelihood that platoon commanders will experience all three types of communication, they should anchor the proposal for instruction at The Basic School.

The following sections detail the three proposed training modules—public speaking, delivering constructive feedback, and leading difficult conversations—for inclusion in TBS's POI. Each of the proposed modules includes a one-hour period of classroom instruction and a shorter role-play-based individual evaluation. These modules are not meant to make lieutenants experts in public speaking, delivering feedback, or leading difficult conversations. Instead, they are meant to introduce future platoon commanders to a menu of best practices and communication techniques that they can refer to throughout their careers.

[21] *Systems Approach to Training (SAT) Manual*, iv.

Proposed Training Module 1: Public Speaking

Like leaders and managers in professions around the world, new platoon commanders are presented with the challenge of how to build rapport with an audience through verbal and nonverbal public speaking techniques. There is a significant amount of literature on public speaking, including research into the efficacy of power posing, the impact of tone of voice, and entire graduate courses dedicated to public speaking.[22] Fortunately, a one-hour period of instruction at TBS can be created from concepts that are already found in two Marine Corps-endorsed sources: the MarineNet elearning ecosystem and the Marine Corps *Systems Approach to Training (SAT) Manual*. The MarineNet course titled Writing and Preparing an Effective Speech is a 25-minute, video-based module that references numerous public speaking best practices. The Marine Corps *Systems Approach to Training (SAT) Manual* includes an instructor evaluation form with a checklist of verbal and nonverbal best practices for public speaking. These sources can be combined into a one-hour period of instruction that introduces newly commissioned officers to public speaking considerations before, during, and after they stand in front of a group of Marines.

The content of the 60-minute public speaking class would include four parts: preparation considerations, audience-centered considerations, verbal and nonverbal communication considerations, and rapport-building considerations. The audience-centered considerations include what the audience was doing prior to being addressed, what they will be doing after, their physical/mental state, the environmental conditions, the audience's ability to hear and see, and their level of prior understanding of the topic. Preparation considerations include practicing out loud beforehand and preparing a logically organized speech. Logical organization—according to the MarineNet course and *Systems Approach to Training (SAT) Manual*—includes an orientation, agenda, and an explanation of

[22] Graduate courses such as Presenting with Confidence are offered at Harvard University and "power posing" gained notoriety from Dr. Amy Cuddy's Ted Talk that referenced the following study: Dana R. Carney, Amy J. C. Cuddy, and Andy J. Yap, "Power Posing: Brief Nonverbal Displays Affect Neuroendocrine Levels and Risk Tolerance," *Psychological Science* 21, no. 10 (2010): 1363–68, https://doi.org/10.1177/0956797610383437.

Table 1. Proposed public speaking module

TBS Training Module 1
Classroom (60 minutes). This classroom instruction focuses on how to stand up and connect with a group of people. Topics include: • Preparation (logical organization, practice); • Audience considerations (environment, timing, prior knowledge); • Communication techniques: verbal (pace, inflection, volume, etc.) and nonverbal (body language, facial expressions, etc.); and • Techniques for connecting and building trust/rapport with an audience (asking questions, showing appropriate vulnerability, humor, and identity anchors). *Evaluation* (10 minutes). The evaluation for this classroom instruction is a practical application where each lieutenant practices holding their initial platoon meeting. This will be done with their TBS squad as the audience and an instructor as evaluator. • Audience and instructor fill out evaluations on how well presenter used techniques; and • A peer will also video record the session. That presenter will watch it and also write a self-evaluation.

"what's in it for me" at start of the presentation. It also includes a summary and concise takeaway at the end.[23] Nonverbal and verbal considerations while speaking include eye contact, posture, movement, gestures, facial expressions, appearance, nervousness, enthusiasm, volume of speech, rate of speech, voice inflection, use of pause, pronunciation, articulation, and pet words. Finally, considerations for building rapport and connecting with an audience include the use of questions, showing (appropriate) vulnerability, using humor, and using narrative to connect messaging to identity anchors.[24]

Although it would be up to the TBS instructor to make the presentation work for their style, this content would be most effective if paired with video examples of polished and poor public speaking. This period of instruction should also be taught at the beginning of the TBS POI, enabling students to experiment with

[23] "Writing and Preparing an Effective Speech," MarineNet eLearning Ecosystem, accessed on 4 January 2025.
[24] *Systems Approach to Training (SAT) Manual*, E-3.

the techniques that work best for them in different public speaking scenarios throughout TBS.

Following the classroom instruction, students would be evaluated on how well they can apply public speaking considerations in a practical application. The evaluation would consist of a role-playing scenario where each lieutenant practices holding an initial platoon meeting (with their TBS squad acting as their future platoon). A TBS instructor would fill out an evaluation checklist to rate how well the lieutenant employs the techniques presented during the classroom instruction. The evaluation would only last 10 minutes, enough time for the lieutenant to deliver some opening remarks and possibly get into introductions or other rapport-building work of their choosing. An important component to this initial evaluation would be that each lieutenant is filmed during their presentation. After the role play, the lieutenant would watch themselves in private while filling out a self-evaluation form similar to the one completed by the instructor.

Video self-analysis allows lieutenants to see the impression they make when they stand in front of a group of Marines without the self-deception that memory and first-person perspective can introduce. Self-analysis via video is also used in teacher training programs around the country to help educators hone their public speaking and presenting skills.[25] A 2016 study conducted with educators found that video self-analysis was one of the most impactful facilitators for self-improvement. One educator who took part in the study noted, "I think you are in the worst position possible to make any judgments about yourself until you see yourself from the different perspective video offers."[26]

Proposed Training Module 2: Delivering Constructive Feedback

Similar to public speaking, there is a significant amount of leadership communication literature (research articles, books, TED Talks, and academic courses) dedicated to how to effectively deliver feedback. It is generally understood that there are different types of feedback such as coaching, appreciation, and evaluation.

[25] In addition to the video analysis in Jim Knight's "Better Conversations" research, the author has firsthand experience as a Tufts University graduate student using video recordings to evaluate classroom communication and teaching.
[26] Knight, "Better Conversations."

Coaching refers to feedback that helps increase someone's knowledge or skill. Appreciation is feedback designed to encourage and motivate. Evaluation encompasses summative feedback that tells someone how they performed compared to certain expectations or standards.[27] Due to their PES-mandated role as reporting seniors, all platoon commanders are required to deliver evaluation feedback to their sergeants and staff noncommissioned officers at the end of each reporting period. For this reason, the TBS lesson on feedback should focus on delivering evaluation feedback. At the Stanford University Graduate School of Business, the most popular elective for the past 45 years is a course titled Interpersonal Dynamics. [28] Along with a wide range of communication skills, this course teaches future industry leaders and CEOs how deliver effective feedback.[29] The curriculum of Interpersonal Dynamics—in addition to research from David Livermore, Valerie J. Shute, and Kevin Ochsner—anchors the proposed TBS period of instruction on delivering feedback.[30]

The content of the 60-minute feedback class would consist of four parts: the psychology of why feedback fails to stick, premeeting considerations for delivering feedback, during-meeting considerations for delivering feedback, and accepting feedback. The psychology of why feedback does not stick would center around research from Kevin Ochsner, who discovered the fight or flight stress reaction that occurs when people are told they are going to receive evaluation feedback. Specifically, stress hormones flood the brain and only about 30 percent of all feedback is ever accepted.[31] The instructor would also present students with informa-

[27] Evelina Vrabie, "The Three Forms of Feedback: Appreciation, Coaching and Evaluation," CTO Craft, accessed 10 June 2025.
[28] "Interpersonal Dynamics," Graduate School of Business, Stanford University, accessed 10 June 2025.
[29] Former Stanford Graduate School of Business Professor Ed Batista has made his course materials from Interpersonal Dynamics available on his executive coaching website. Ed Batista, "Interpersonal Dynamics Winter 2017 Syllabus," Ed Batista Executive Coaching, accessed 10 January 2025.
[30] Dr. David Livermore is a social scientist and author who specializes in cultural intelligence. Dr. Valerie J. Shute is an educational psychology professor at Florida State University and researcher who specializes in design, development, and evaluation of learning. Dr. Kevin Ochsner is a psychology professor at Columbia University and researcher whose work focuses on self-control, personal perception, and neuroscience approaches to emotion.
[31] Karie Willyerd and Barbara Mistick, "How to Get Feedback When No One Is Volunteering It," *Harvard Business Review*, 14 April 2015.

Table 2. Proposed delivering constructive feedback module

TBS Training Module 2
Classroom (60 minutes). Delivering and receiving feedback. This classroom session focuses on how to give and receive one-on-one feedback. Topics include: • Why feedback does not stick (flight-or-fight response); • Premeeting actions (give advance notice, private location, explain why); • During-meeting actions (use specific anecdotes, focus on actions/results, use script); and • Accepting feedback (ask, accept, appreciate, act). *Evaluation* (15 minutes). The evaluation for this classroom instruction is a practical application where lieutenants practice holding a fitness report counseling with a sergeant squad leader based on a given scenario. • A peer lieutenant role plays as the squad leader; and • An instructor evaluates how well the above techniques were employed.

tion from Valerie J. Shute, whose research highlights the ways that feedback can actually inhibit learning when it is offered in a vague or imprecise way.[32]

The period of instruction would then transition to some of the best practices for delivering feedback. Specifically, research-supported steps to take before and while delivering feedback. Before-feedback best practices include giving a Marine advance notice and explaining the "why" behind the feedback meeting.[33] During-feedback best practices include reviewing the meeting agenda, anchoring feedback in specific concrete examples, using precise language that distinguishes between the things the Marine did and the person they are, reading directly from the prepared notes and/or the fitness report, and asking for questions while seeking collaboration for a way ahead at the end of the meeting.[34] The classroom instruction would conclude with best practices for

[32] Valerie J. Shute, "Focus on Formative Feedback," *Review of Educational Research*, 78, no. 1 (2008): 156, https://doi.org/10.3102/0034654307313795.
[33] David Livermore, "How to Give Culturally Intelligent Feedback," *David Livermore* (blog), 1 March 2024.
[34] Ed Batista, "Interpersonal Dynamics Winter 2017 Syllabus: Class 4, Feelings and Feedback," Ed Batista Executive Coaching, accessed 10 January 2025.

receiving feedback. Specifically, the TBS instructor would review the so-called "four A" model (ask for feedback, appreciate feedback, accept feedback, and act on feedback) and reference *Harvard Business Review*'s "The Right Way to Process Feedback," to explain how to put the four A's into action.[35]

Following the classroom instruction, the students would be evaluated based on how well they can apply the techniques during a mock fitness report counseling session. During the evaluation, one of their peers would play the role of a sergeant squad leader with whom the platoon commander has been working for the past six months. The student would be given a written scenario that describes a few positive and negative observations from the period of performance and an (already completed) fitness report to deliver to the sergeant. A TBS instructor would be in the room observing. The role play is meant to give the student experience sitting down face-to-face and delivering constructive feedback to one of their Marines. Additionally, it is meant to stress the responsibility of the reporting senior to hold an in-person counseling at the end of each reporting period—something that often fails to stick during the brief portion of TBS currently dedicated to the PES.[36]

Proposed Training Module 3: Leading Difficult Conversations

There is no standard definition of a *difficult conversation* in the field of leadership communication. For the purposes of this article, the definition from *Difficult Conversations* will suffice. A difficult conversation refers to one where "one or more of you feels insecure in some way, and the stakes feel high."[37] In the context of teaching future platoon commanders at TBS, this definition can be applied to a specific example: a conversation between a platoon commander and one of their Marines about a significant problem facing that

[35] Andreas Holmer, "4A Feedback Guidelines: Aim to Assist, Make It Actionable, Show Appreciation, and Choose to Accept or Discard," *Medium*, 9 January 2023; and Cameron Conaway, "The Right Way to Process Feedback," *Harvard Business Review*, 14 June 2022.

[36] Multiple observers have acknowledged the lack of effective PES training at TBS, including Barrett P. Dupuy, "Performance Evaluation System," *Marine Corps Gazette* 98, no. 3 (March 2014): 74–77; and David R. Dixon and Matt Ford, "The PES," *Marine Corps Gazette* 101, no. 4 (April 2017): 20–22.

[37] *Difficult Conversations*, HBR 20-Minute Manager Series (Cambridge, MA: Harvard Business Review Press, 2016).

Marine. Conversations may include a platoon commander speaking with a Marine about their involvement in a criminal investigation, child custody or divorce, financial issues, mental health and substance abuse struggles, or the death of a friend or family member.[38] In addition to the main themes of *Difficult Conversations*, the TBS period of instruction would borrow heavily from a Marine Corps Recruiting Command course developed to teach effective communication skills to its new recruiting station staff noncommissioned officers-in-charge (SNCOIC). Together, these materials can be adapted into an hour-long period of instruction for TBS lieutenants on leading difficult conversations.

The content of the 60-minute leading difficult conversations lesson would be split into three parts: the first would introduce lieutenants to the variety of serious issues a platoon commander may have to discuss with their Marines, the second would present best practices for dealing with these conversations from Recruiting Command and *Difficult Conversations*, and the third would provide students with available resources and support they can recommend to their future Marines.

During the first part of the lesson, the instructor would make sure the students understand that being a platoon commander is not only about taking care of Marines in the field, but also about supporting Marines while they deal with sometimes serious personal problems (legal, financial, mental health, substance abuse, etc.) In this part of the lesson, TBS instructors would share stories of real-life struggles that they or their Marines had to deal with in the past and the role that an officer played in the situation. This will help expose lieutenants—many of whom arrive at TBS with limited real-world leadership experience—to the reality of leading Marines.

For the second part of the lesson, the instructor would review best practices for what to do during a difficult or emotionally charged conversation. The effective communication skills training developed by Recruiting Command's National Training Team is particularly relevant to this period of instruction. Because of the nature of recruiting, Marine Corps recruiters are often required to have deeply personal conversations with recruits and their families.

[38] Keith R. Aronson and Daniel F. Perkins, "Challenges Faced by Military Families: Perceptions of United States Marine Corps School Liaisons," *Journal of Child and Family Studies* 22, no. 4 (2013): 521, https://doi.org/10.1007/s10826-012-9605-1.

Table 3. Proposed leading difficult conversations module

TBS Training Module 3
Classroom (60 minutes). This classroom session focuses on how to manage conversations about topics they may not have imagined dealing with as a platoon commander. • Spectrum of issues a platoon commander could deal with (child custody and divorce, criminal, mental health, death, etc.); • Techniques for handling difficult conversations (active listening, questions, empathy, etc.); and • Resources for support (community counseling, SAPR, financial, etc.). *Evaluation* (15 minutes). One-on-one role play of a Marine coming into platoon commander's office and sharing a significant personal struggle. • Instructor doubles as the role-player Marine; • Evaluates how well the lieutenant employed techniques and shared resources with the Marine; and • Not graded due to lack of standardization.

In the command's doctrinal publication, *Guidebook for Recruiters*, as well as the Basic Recruiter Course and multiple National Training Team courses, Marine recruiters are taught interpersonal communication skills relevant to difficult conversations. For example, they are taught specific ways to listen with purpose, sometimes referred to as active listening. Techniques to listen with purpose include observing body language, listening to find common ground, and asking questions to clarify or confirm during one-on-one conversations. The training stresses the importance of listening to make connections and "bridge gaps" instead of preaching.[39] Similarly, *Difficult Conversations* highlights the importance of refraining from launching into problem solving during a difficult conversation. Instead, it recommends avoiding projecting assumptions onto someone by using "I" statements, asking questions, and prioritizing empathy.[40] This part of the lesson would also present some ways difficult conversations are made easier if a leader has cross-cultural

[39] *Guidebook for Recruiters*, vol. 1 (Quantico, VA: Marine Corps Recruiting Command, 2014), 7-3.
[40] *Difficult Conversations*.

understanding, which may require some self-study on the part of the officer after they meet their Marines.[41]

During the final part of the lesson, the instructor would review a list of resources that the DOD and Marine Corps makes available to all its servicemembers. For example, the lesson would review the services provided by an installation's community counseling center, the unit's sexual assault prevention and response (SAPR) representative, and the local Navy and Marine Corps Relief Society. The lieutenants would also be given this list as a reference to provide to their future Marines as necessary.

Following the classroom instruction on leading difficult conversations, each lieutenant would be evaluated based on how well they can apply the classroom instruction during a role-play scenario. The role play would simulate a Marine coming to talk to their platoon commander about a significant personal problem. A TBS instructor would play the Marine who comes in to discuss their problem. The lieutenant would be expected to apply some of the communication techniques reviewed in the classroom during this conversation. They would also be evaluated on their understanding of what type of services are available to the Marine. Due to the challenge of standardizing each difficult conversation, this practical application would be "feedback only" and not graded. The instructor would provide immediate feedback to the lieutenant in lieu of a graded evaluation.

Analysis of Solution

This proposal has a high likelihood for success because of its proven effectiveness in other industries and because the Marine Corps currently lacks communication skills training for its new officers. In some ways, Marine Corps leadership is unique when compared to the civilian workforce. For example, most civilian organizations do not deal with physical harm or death as a result of leadership decisions. In many ways, however, civilian leaders grapple with the same leadership challenges as the typical Marine Corps officer. Challenges like: *How do I connect with and motivate this diverse group of individuals? How do I get my message across effectively and efficiently?* Because of this overlap, it is a logical to assume

[41] Melissa Hahn and Andy Molinsky, "Having a Difficult Conversation with Someone from a Different Culture," *Harvard Business Review*, 25 March 2016.

that a communication skills training program built from industry executive training programs will help new Marine officers effectively communicate.

Additionally, the proposed solution is likely to have an immediate impact because of the current low bar set for communication skills training in the Marine Corps. Beginning at TBS and continuing throughout their careers, Marine officers are evaluated on their communication skills. However, many have never been provided a period of instruction on how to effectively communicate. Equally as concerning, new lieutenants arrive in the fleet with zero experience putting a billet description in front of a Marine and saying, "This is what I'm expecting of you, so let's go through it," or "This is how you have done during the reporting period, but let's go through it together." As a minimum achievement, the proposed curriculum will correct the imbalance between officer communication skills expectations and training. It will also help new lieutenants understand what is required of them as a reporting senior and platoon commander in the fleet.

Ideally, the proposed TBS curriculum would have wide-reaching effects across the Marine Corps. After experiencing the communication skills curriculum at TBS, newly commissioned officers may be empowered to coach their noncommissioned officers in the communication skills they learned. This type of coaching has the power to chip away at the fixed-mindset fallacy of "you're either a good communicator or you're not" that exists today.[42] Additionally, sergeants and above may receive more consistent fitness report counseling from platoon commanders who received the training (leading to clear expectations and improved morale). There are other potential positive effects. If platoon commanders are more comfortable speaking in front of their Marines, they are more likely to command respect. And if the platoon commander understands the resources available to their struggling Marines, they will be better prepared to take care of them.

Counterarguments

One of the strongest counterarguments against this proposal is that there is not enough time in the TBS POI, especially with the individual practical application sessions suggested above. However,

[42] Dweck, *Mindset*.

certain portions of the POI could be reduced to allow for communication skills training and evaluation. The total time for the proposal's classroom instruction is three hours. While there are many ways to remove three hours of instruction from the current POI, the author recommends focusing on sand table exercises (STEXs). The Platoon in the Offense STEX and Movement to Contact STEX have many similarities in their learning objectives. By combining the two STEXs, instructors could save two hours.[43] The author also recommends reducing the Motorized Operations and Military Operations on Urbanized Terrain STEXs by 30 minutes each, thereby saving another hour. In addition to three hours for classroom instruction, this proposal requires time for three 15-minute evaluation sessions per student. That means for each TBS platoon, the POI must accommodate 30 mock initial platoon meetings, 30 mock one-on-one fitness report counseling sessions, and 30 mock difficult conversations. While this commitment sounds like a significant time burden, these evaluations do not need to happen in the same week. They can be spaced out during multiple weeks of the POI. The author recommends that each TBS company use about 30–45 minutes of company white space time per week to conduct these evaluations. While inserting additional requirements for each TBS staff platoon commander (SPC), these evaluations would also reduce each SPC's requirement to fill white space with their own instruction. Using STEX and company white space time is one of many possibilities to reduce the current POI. A more thorough evaluation of the POI by experienced curriculum professionals and instructors at TBS could uncover other opportunities.

Another argument against teaching stand-alone communication skills at TBS is that communication skills are taught later in an officer's career during instructor training and professional military education (PME). This is only partially true. As part of Marine Corps schools such as Weapons and Tactics Instructor Course, Operations and Tactics Instructor Course, MOS schools, and TBS, the incoming instructor staff receive training in certain communication skills. At TBS, for example, new instructors are put through intensive, monitored dress rehearsals before they are certified to teach students. During these dress rehearsals, instructors are asked to reflect on how their period of instruction went and are provided constructive

[43] "Basic Officer Course (Blank Slate) Program of Instruction v2024," iv-433.

feedback on their verbal and nonverbal presentation skills by an audience of certified instructors. Communication skills training is a focus of Marine Corps officer PME as well. Marine Corps University employs multiple communication-focused initiatives such as its Leadership Communication Skills Center and electives focused on emotional intelligence, communication, and resilience to adhere to the Joint Chiefs of Staff's directive mandating that Joint PME create leaders with "effective written, verbal, and visual communications skills to support the development and implementation of military strategies and complex operations."[44] Despite some opportunities to focus on communication later in an officer's career, these opportunities arrive too late. The communication skills training that officers receive if selected to become a school instructor is valuable, but it comes following an officer's platoon commander time. Similarly, the leadership communication topics that Marine Corps University explores are valuable, but only certain officers attend resident PME (and none attend before they command a platoon). This proposal advocates for correcting the sequence of communication skills training in the Marine Corps. From the first day they meet their platoon, all Marine Corps lieutenants should be armed not only with basic tactical proficiency from TBS and their MOS school, but also with basic communication skills proficiency.

Another argument against teaching stand-alone communication skills at TBS may be phrased as follows: Figuring out how to be a platoon commander is just part of the job. Communication skills have never been taught at TBS and officers still succeed. Why start now? It is true that lieutenants can survive their time as a platoon commander without ever receiving communication skills training. However, the average enlisted platoon member suffers when they are led by a poor or inexperienced communicator. The vast majority of Marines work and live at the platoon level.[45] As a result, most of the messages, information, and orders that come down from the highest levels of the Marine Corps and DOD are delivered to Marines by their platoon leadership. If the Marines Corps invests in

[44] *Chairman of the Joint Chiefs of Staff Instruction 1800.01G, Officer Professional Military Education Policy* (Washington, DC: Joint Chiefs of Staff, 15 April 2024), A-3.

[45] In 2022, of the 174,577 total active-duty Marines, 125,820 were between the ranks of private (E-1) and sergeant (E-5). See *2022 Demographics: Profile of the Military Community* (Washington, DC: Department of Defense, 2022), 15.

the communication skills of its platoon commanders, it will see an outsized positive impact on the average enlisted Marine's experience.

Conclusion

To rebalance the Marine Corps' high expectations for officer communication skills with its officer training, TBS should borrow from the field of leadership communication and add instruction and practical application exercises in public speaking, delivering constructive feedback, and leading difficult conversations. If the three training modules are implemented, officers will be better positioned to live up to the Marine Corps' high expectations for their ability to communicate. Better communicators would lead to higher morale at the platoon level, a stronger Performance Evaluation System (because reporting seniors better understand their responsibilities), and a professional officer corps ready to communicate in every clime and place, from the well-lit office to the crucible of combat.

This proposal has limitations that could be addressed with additional time and research. Importantly, it has not gone through the full fives phases of Marine Corps Training and Education Command's *Systems Approach to Training (SAT) Manual*, which is the "process for analyzing, designing, developing, implementing, and evaluating instruction."[46] The five phases exist to take a proposal like the one found here, verify its claims, and turn it into curriculum at Marine Corps schools. In conjunction with Marine Corps Training and Education Command and TBS, this proposal could be put through all five phases, starting with a survey-supported "job analysis" of the communication-enabled tasks that new platoon commanders execute. Surveys and focus groups could provide data regarding how well-prepared current platoon commanders feel to address their Marines, deliver feedback, and lead difficult conversations. The collected data could be used to move this proposal forward into the design, develop, implement, and evaluate phases of the *Systems Approach to Training (SAT) Manual*.

Although this proposal drew largely from communication skills courses at top civilian universities and existing Marine Corps curriculum, further research could focus on how other Services teach

[46] *Systems Approach to Training (SAT) Manual*, iii.

communication skills to their leaders. Specifically, the U.S. Army has an extensive training curriculum focused on training the leadership skills outlined in *Army Leadership* (Army Doctrinal Reference Publication 6-22). The Army's doctrine features a leadership requirements model with competencies that include how to build trust, communicate, and give feedback.[47] The Army model may be relevant not only to inform a future TBS communication skills curriculum, but also to remedy the imbalance between communication skills expectations and training in the Marine Corps writ large.

About the Author

Timothy Morris is a major in the U.S. Marine Corps Reserve. He has served on active duty and in the Reserves as an air command and control officer (MOS 7202), weapons and tactics instructor (MOS 7277), and training and education officer (MOS 8802). He holds a master of arts in teaching from Tufts University, a master's in military studies from Marine Corps University Command and Staff College, and is a history PhD candidate at Kansas State University. Morris is a certified high school history teacher in the Commonwealth of Massachusetts.

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[47] LtCol Gerald F. Sewell, "Emotional Intelligence and the Army Leadership Requirements Model," *Military Review* 89, no. 6 (November 2009): 96.

IDENTIFYING MORAL PERSPECTIVE PREFERENCES IN NATIONAL SECURITY PROFESSIONALS

Pauline Shanks Kaurin, PhD; Captain George Baker, USN (Ret), EdD; and Leigh Ann Perry, PhD

Abstract: Professional military education (PME) traditionally emphasizes decision-making frameworks for leader development, including cognitive models and moral perspectives such as virtue ethics, deontology, and utilitarianism. This study introduces and examines the *moral perspective sorter* (MPS), a 12-item teaching tool developed at the U.S. Naval War College (NWC) to assess students' moral perspective preferences, including the often-overlooked ethics of care. Data from five years of application in intermediate and senior-level PME, including the NWC and Navy Senior Enlisted Academy (SEA), indicate that ethics of care consistently emerges as the most frequently selected perspective in aggregated groups exceeding 100 participants. Findings suggest that PME curricula should incorporate ethics of care to better align ethical education with the disposition of current national security professionals. Implications for pedagogy, small-group facilitation, and faculty development are discussed.

Keywords: ethics education, moral preferences, moral perspective sorter, MSP, national security professionals, professional military education, PME, leader development

Introduction

Professional military education (PME) focuses a great deal of atten-

tion on decision-making, including examination of different models for decision-making, Daniel Kahneman's System 1 and System 2 thinking, cognitive biases, and the role of assumptions and heuristics in reflection and other cognitive activities.[1] To address good decision-making, which ought to include proper ethical content, PME institutions also often teach some form of moral deliberation—how to choose right from wrong. Most rely on the three dominant moral perspectives: virtue, deontology, and utilitarianism.[2]

This article addresses ethics education in two contexts: the U.S. Naval War College (NWC) and the Senior Enlisted Academy (SEA). The NWC provides professional military education designed to prepare students for the operational and strategic levels of military and civilian engagement in the national security enterprise. The SEA provides professional development designed for senior enlisted leaders (E-7 through E-9). Ethics education at these institutions aims to develop self-awareness and capacities for ethical leadership including moral deliberation, reflection, and engaging across moral differences. To do so, the NWC and the SEA teach four major moral perspectives from philosophy: virtue, deontology, utilitarianism, and ethics of care.[3] For clarity and ease of discussion, deontology and utilitarianism are referred to as *duty* and *consequentialist*, respectively, for NWC and SEA students throughout the remainder of this article. Together, these approaches serve as four different lenses through which to judge the right and wrong actions in a given situation, adding ethics of care to the three more frequently utilized moral perspectives.

Why Add Ethics of Care?

Virtue, duty, and consequentialist perspectives have long been at the center stage for determining which action to take through moral deliberation. However, these dominant moral theories assume independent, autonomous, and rational individuals. They purposefully ignore the fact that people naturally form personal and social

[1] Daniel Kahneman, *Thinking Fast and Slow* (NY: Farrar, Straus and Giroux, 2013).
[2] Virginia Held, "Chapter 1: The Ethics of Care as Moral Theory," in *The Ethics of Care: Personal, Political, and Global* (New York: Oxford Academic, 2005), 9–28, https://doi.org/10.1093/0195180992.003.0002.
[3] Pauline Shanks Kaurin and George Baker, "Ethical Development for Mid-Career Leaders: Moral Perspective Sorter as a Teaching Tool," *Tidsskrift for Sjøvesen* 1 (2022): 16–24.

relationships.[4] From the dominant moral theories perspective, relationships are thought to create favoritism that conflicts with impartiality.[5] Yet, as human beings, relationships do indeed matter. Hence, the more recently developed moral perspective, ethics of care, recognizes that humans are relational and emotional.[6] Ethics of care recognizes that social bonds and cooperation are as important as the individual desires of equality and freedom.[7] There are many reasons why soldiers fight in war. One of those reasons, often said, is that they are fighting for each other. The relationships they form throughout their training are often what matters most in the heat of combat. Ethics of care accounts for these elements not included in the dominant moral perspectives.

For readers unfamiliar with moral philosophy, morals are right/wrong or good/bad judgments. Each of the four major moral philosophies makes these judgments from a different standpoint. Dating back to circa 300 BCE, *virtue ethics* focuses on the individual's character as a collection of virtues (*virtu* in Greek = excellence).[8] These traits or behaviors are necessary for the good life. Virtues (e.g., honor, courage, and commitment) are habitually and consistently demonstrated by individuals in their actions as judged by others in a social context or community. As members of the Joint Force, the social context and community is the profession of arms. Being in this profession carries moral obligations to the society they serve (professional ethics) and the embodiment of a professional identity (professional *ethos).*[9] All Service core values are rooted in virtue ethics.

During the Age of Enlightenment (late eighteenth century), a new concept of moral reasoning emerged—*duty ethics*. Duty ethics focuses on principles. More often referred to as Immanuel Kant's *deontology*, the right thing to do is derived from rational reasoning based on the following principles of consistency (what everyone should do) and respect (treating people as ends rather

[4] Held, "Chapter 1: The Ethics of Care as Moral Theory."
[5] Held, "Chapter 1: The Ethics of Care as Moral Theory."
[6] Todd May, *Care: Reflections on Who We Are* (Newcastle upon Tyne: Agenda Publishing, 2023), https://doi.org/10.2307/jj.1357301.
[7] Held, "Chapter 1: The Ethics of Care as Moral Theory."
[8] Rosalind Hursthouse and Glen Pettigrove, "Virtue Ethics," *Stanford Encyclopedia of Philosophy*, 11 October 2022.
[9] Richard M. Swain and Albert C. Pierce, *The Armed Forces Officer* (Washington, DC: NDU Press, 2017).

than means).[10] Acting for the sake of duty is moral because of the need for consistent good will (good action). This is opposed to merely acting in accordance with duty, which includes other motivations that might confuse the moral deliberation process and not lead to moral action.

A century later, social changes in the Victorian era sparked debates about greater social issues. From those debates, *consequentialist ethics* emerged. Whereas duty ethics centers on intent, consequentialist ethics centers on outcomes and the greater good.[11] Here, moral actions (act utilitarianism) or moral rules (rule utilitarianism) are rooted in and justified by the consequences. Actions or rules are moral to the degree they produce the greatest good, happiness or pleasure, for the greatest number of people. This means, for something to be moral, it must have good consequences in the aggregate—nothing more, nothing less.

Virtue, duty, and consequentialist ethics make up what is often referred to as the dominant three moral perspectives.[12] They center on the "public" life principles of reason, law, and justice. In this arena, individuals are assumed to be equal, rational, and independent agents.[13] Said differently, human beings are universal—one size fits all. These collective assumptions dominated moral discourse until the late twentieth century. Emerging in the 1980s, *ethics of care* challenged the assumptions behind the dominant moral perspectives. Instead of autonomous, independent agents, ethics of care recognizes that people are social creatures with inherent power differences.[14]

Ethics of care centers on relationships, empathy, and proper reflective moral emotions. Ethics of care argues that morality is relational. We need to think about care, not just as raw feeling, but as a practice of moral responsibility based on our relationships. Relationships, empathy, and moral reflective emotions (e.g., appropriate sensitivity and responsiveness) discern moral actions in each context. Furthermore, ethics of care also requires attention to the

[10] Larry Alexander and Michael Moore, "Deontological Ethics," *Stanford Encyclopedia of Philosophy*, 11 December 2024.
[11] Julia Driver, "History of Utilitarianism" *Stanford Encyclopedia of Philosophy*, 31 July 2025.
[12] Held, "Chapter 1: The Ethics of Care as Moral Theory."
[13] Held, "Chapter 1: The Ethics of Care as Moral Theory."
[14] See Held, "Chapter 1: The Ethics of Care as Moral Theory."

power dynamics and elements of the context to discern and enact moral responsibilities. Unlike the three dominant moral perspectives, judgments through ethics of care cannot be made in advance or in the abstract, and judgments of right and wrong are rooted in both moral emotion and reflective rationality.

Students at the NWC are exposed to these different moral perspectives in their core course, Leadership in the Profession of Arms (LPA). During this introduction, they often want to know why it is necessary to look at a moral situation from different perspectives. To clarify this for students, LPA instructors use a four-way intersection analogy that seems to resonate with those who might be skeptical about doing more work, especially when they already "know" the right answer. Imagine a small town that has a four-way intersection notorious for traffic accidents (one or two each week). Now, imagine that the town has hired you to be the traffic accident adjudicator. When the next accident occurs, your job will be to decide who is at fault. And to help you, someone installed a traffic camera on the north side of the intersection. Would you want access to that traffic camera? Yes. Oh, and there are cameras on the south, east, and west sides of the intersection as well. Which camera or cameras would you routinely want access to? All four. Why all four? Each one shows a different perspective. At that point, students can make the connection to the importance of viewing moral situations through different perspectives.

Another method used by the instructors to help students with this exploration is to provide them the opportunity to practice moral deliberation in different scenarios from each of the four major moral perspectives. What would this deliberation look like from a virtue ethics perspective? What would it look like from a duty ethics perspective? This is a critical learning point where students often need to be guided by a knowledgeable teacher. It is not uncommon for students to get it wrong when they try explaining something from a nonpreferred perspective. By applying the four perspectives in a scenario, students begin to appreciate the value of thinking past their initial thought. They also understand that views other than their own are equally justifiable when examined through a different moral lens. They recognize that this is often the case when people are talking past each other on moral issues. Further, knowing the four perspectives gives students the tools to

appreciate the other person's perspective when they are in general disagreement.

Students continue to use these terms throughout the entirety of the LPA course in personal conversations, classroom discussions, and written reflection assignments. The four moral perspectives serve as a cornerstone in later lessons focusing on heuristics, cognitive biases, and decision-making. Students are encouraged to make the connection between System 1 thinking (intuitive/automatic) and their preferred moral perspective and identify that they may need to shift into System 2 thinking (deliberate) to access and consider those moral perspectives that may not be their default lens.[15]

Research involving the dominant moral perspectives (virtue, duty, and consequentialist) is well established. For example, these perspectives form the basis of Lawrence Kohlberg's studies on moral reasoning.[16] However, research that includes ethics of care is parsed. What is unknown is how prevalent the ethics of care perspective is in national security practitioners' moral deliberation. Given that most PME institutions do not include ethics of care in their curricula, is the larger body of PME missing out on an important aspect of moral reasoning in military decision-making?

Developing the Moral Perspective Sorter

To teach moral reasoning, the authors initially used free online tools such as the Ethical Philosophy Selector and the Ethical Lens Inventory. However, these resources proved problematic. Besides being heavily ladened with advertisements, their results pointed to individual philosophers (e.g., St. Augustine of Hippo, Jean-Paul Sartre, Aristotle, John Stuart Mill, etc.) vice the broader moral theories (virtue, duty, consequentialist, and ethics of care). Students were losing sight of the forest through the trees. Accordingly, the first and second authors developed a survey of their own.

The moral perspective sorter (MPS) is a pre-class, online quiz designed to help students identify their preferred lenses for moral reasoning. It is a teaching tool to help students invest in think-

[15] Kahneman, *Thinking Fast and Slow*.

[16] Lawrence Kohlberg, *Essays on Moral Development*, vol. 1, *The Philosophy of Moral Development: Moral Stages and the Idea of Justice* (San Francisco, CA: Harper & Row, 1981).

ing about moral questions and facilitate classroom conversations on ethics. It is a 12-item, multiple-choice questionnaire distributed via the NWC's online survey software. Each question offers four response options, and each response aligns with one of the four moral perspectives: virtue, duty, consequentialist, or ethics of care. The survey results are downloaded into an Excel spreadsheet, which is then used to mail merge students with their individual results.

These individual results give students an awareness about how they view moral questions via the four moral perspectives. The learning continues in the classroom when students see how others approached moral questions during discussions and in applications with cases, scenarios, and moral narratives. It is important to have a common language around concepts, so tools like this have been common devices in undergraduate philosophy and ethics courses (different versions can be found online), but none focus solely on these foundational moral perspectives.

Focusing on the four moral perspectives serves as a bridge to a deeper understanding of philosophy. With a firm understanding of virtue, duty, consequentialist, and ethics of care, students can then appreciate the differences between David Hume, Immanuel Kant, Jeremy Bentham, and the host of other philosophers who have contributed to moral reasoning throughout time. That was the goal of the MPS. But by using it, the MPS pointed out something unexpected, something the authors were not looking for. When, out of curiosity, they added the results in the four columns of the spreadsheet (virtue, duty, consequentialist, and ethics of care), there was one clear standout.

Using the Moral Perspective Sorter

The MPS was used to examine the perspectives across NWC and SEA students to determine if ethics of care was a preferred moral perspective when considered alongside the three historically dominant perspectives. Was ethics of care even worth teaching? The answer was a resounding yes. The findings across individuals and multiple groups suggest that ethics of care is a preferred moral perspective for PME students and should be taught alongside the three more often taught perspectives. These findings provide an opportunity to examine expanded ways of teaching moral deliber-

ation in PME and the need to address the absence of ethics of care as a major moral perspective.

The authors are current and former faculty members in the College of Leadership and Ethics at the NWC, with extensive experience teaching ethics and leader development to military and national security professionals. Their roles include curriculum design, faculty development, and facilitation of PME seminars. This positionality informs both the interpretation of results and the emphasis on practical applicability in PME settings.

Methodology

Study Design

The current study used a descriptive, cross-sectional approach, gathering MPS results from multiple seminars of PME courses at the NWC and SEA during a five-year period. This project was reviewed by the Naval Postgraduate School Institutional Review Board and determined to be exempt as the study does not meet the federal definition of "research" as defined under Title 32 Code of Federal Regulations § 219.

Participants

Participants included intermediate and senior-level officers from across the Joint Force, senior enlisted leaders, U.S. national security civilians, and international military partners who were students in either the LPA course at the NWC (about 400 per year) or at the SEA (11 classes per year, about 1,200 students total) from 2020 through 2025. For academic year 23–24 (AY 23–24), a total of 414 participants from the NWC (n = 230 intermediate officers; n = 184 senior officers) and 238 participants from two SEA classes during the same year (n = 105 in class 265; n = 133 class 268).

Procedure

The MPS was administered as a pre-lesson activity in the "Introduction to Moral Perspectives" session (a lesson at both the NWC and the SEA). Students receive an email invitation to complete the survey prior to class via a link embedded in the email. The survey results are downloaded to a spreadsheet and, using mail merge, students receive their individual results prior to the session, encouraging reflection before formal instruction. Though all have

had ethics and compliance training (*how to do*) throughout their careers, few have had ethics education (*how to think*). Fewer still remember what specific philosophical terms (e.g., duty ethics, virtue ethics) mean even if they might have encountered them in a philosophy course as undergraduates.

Data Analysis

Once completed, the pre-lesson survey results are downloaded to an Excel spreadsheet. Individual results are scored by counting the number of responses the participants chose in the 12 multiple-choice questions in each of the four moral perspectives. For example, if a participant selected the response that aligned with duty ethics in 4 of the 12 questions, they would receive a score of 4 for duty ethics.

After mail merging students their individual results, Excel functions are used to produce graphs for individuals in each seminar. Additionally, Excel summation functions are used to aggregate individual results across the four columns (virtue, duty, consequentialist, and ethics of care) by class (for the SEA), or by class and by small group seminar (for the NWC). Individual and small group examples are shown in the section that follows.

Results

Individual Level

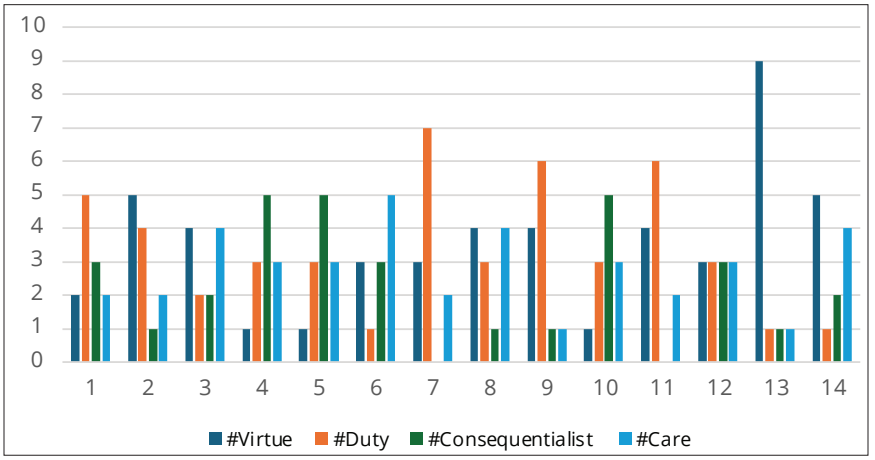
Participants varied widely in their moral perspective preferences, though most displayed a clear preference for one or two perspectives. Figure 1 represents MPS findings from one NWC seminar with 14 students.

Small-group Level

Unlike the individual-level graphs, seminar-level results revealed distinct patterns. Some seminars skewed toward virtue and duty preferences and others toward ethics of care and consequentialist preferences. Figure 2 displays the small-group level findings of the same seminar represented in figure 1, demonstrating a stronger preference for virtue and duty ethics compared to consequentialist and ethics of care.

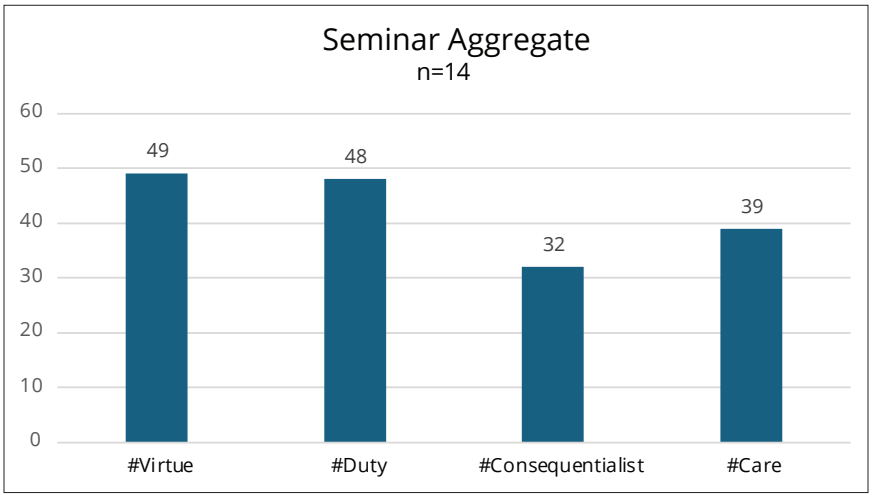
Despite the student composition across seminars being generally the same in terms of military service and civilian representation,

Figure 1. Example of individual-level results



Source: courtesy of the authors, adapted by MCUP.

Figure 2. Example of seminar-level results



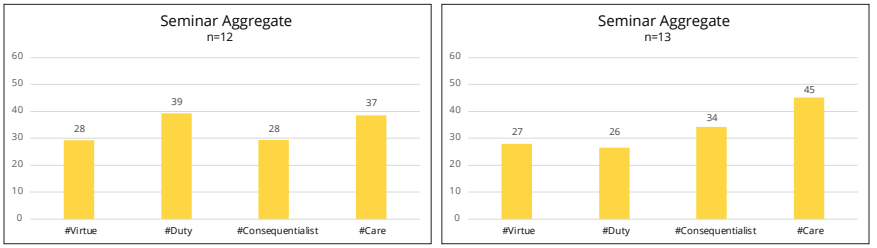
Source: courtesy of the authors, adapted by MCUP.

the current study found differences across MPS profiles when comparing seminars. Figure 3 shows an example of these differences.

Large-group Level

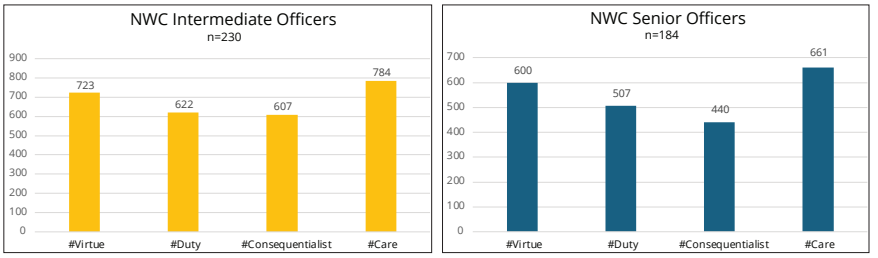
When seminar results were combined to create larger group cohorts (NWC intermediate officers, NWC senior officers, SEA class 265, and SEA class 268) with more than 100 participants per cohort,

Figure 3. Example of seminar-level results comparison



Source: courtesy of the authors, adapted by MCUP.

Figure 4. NWC AY 23–24 large group results



Source: courtesy of the authors, adapted by MCUP.

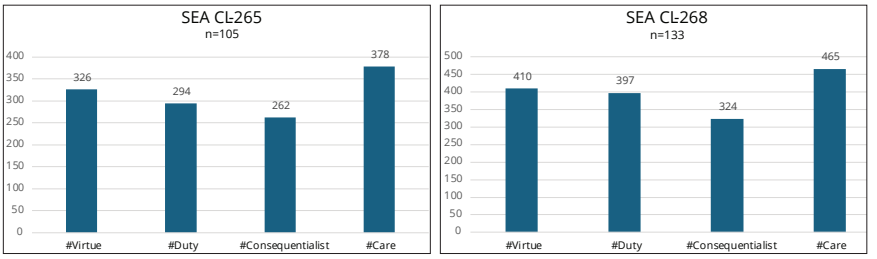
a consistent "smile" pattern emerged across all cohorts: virtue and ethics of care scores were higher, with duty and consequentialist scores lower. Across all large-group cohorts, ethics of care was the perspective with the highest level of responses.

Although the small-group level results varied across seminars, significant change happens at the large-group level. As seminars are combined into their larger cohorts and the sample size increases above n = 100, the pattern becomes surprisingly consistent across intermediate officer, senior officer, and senior enlisted ranks. Figures 4 and 5 show the aggregate MPS results for intermediate and senior officers attending the NWC during AY 23–24 and the senior enlisted members attending SEA during the same timeframe.

Discussion

The four moral perspectives provide a framework for deciding right or wrong when exploring the complexity of moral deliberation in today's complex national security environment. For many, moral deliberation is implicit and difficult to express. They can articulate

Figure 5. SEA AY 23–24 large group results



Source: courtesy of the authors, adapted by MCUP.

the right thing to do, but they often lack the words to explain why they think that choice is right, or how they arrived at that judgement. Using the MPS as a teaching tool makes this implicit reasoning explicit. Through familiarization with the tool, students have words to describe the "why" behind their choices.

More importantly, the MPS helps students explore reasoning and decision-making from their nonpreferred moral perspectives. The MPS shows students that theirs is not the only legitimate perspective in moral situations. It allows them to engage with other classmates in activities where ethical disagreement and articulation happen in face-to-face decision-making exercises. Students can see the difference between the moral perspective preferences play out in terms of what each person focuses on, sees or fails to see, or prioritizes as morally salient.

As one might expect, individuals vary in their preferences on the MPS. Some prefer one or two moral perspectives, while others can be evenly distributed across all four perspectives. An assumption behind the tool is that students are generally unfamiliar with recognizing each of the four perspectives. Hence, their affinity for one or two perspectives may provide some value for self-awareness. Though not always, this is often the case for students attending the NWC or the SEA.

During seminar discussions, students are asked to reflect (individually and with their seminar members) on where they think their results come from, and how their preference manifested in their past decisions. Then, the real work begins as students are challenged to look through their nonpreferred moral perspective lens. How might a different moral perspective view a specific

event? Why? What elements might a different perspective focus on or see? The goal is for students to be able to view any event from all four moral perspectives, articulate the differences and similarities in morally salient aspects, and do so from each of the four perspectives.

PME institutions often break students into small groups or seminars for effectiveness of learning. The MPS results at the seminar level provide a kind of fingerprint for a different approach to building and using these small groups effectively. Results from the current study varied across seminars. Although research has yet to be conducted to determine what might account for these variations, small group MPS profiles may one day help professors manage small groups and teams to maximize learning. For example, how does approaching a group that scores high on ethics of care differ from a group that scores high on duty ethics? Especially in a seminar's early stages, approaching a group from its dominant moral perspective may prove more fruitful than a standard, one-size-fits-all approach.

From a teaching perspective, moral preferences can also be used to break students into smaller groups within each seminar in decision-making exercises. Facilitators can use the MPS small-group profiles from a given seminar to structure in-class exercises—either grouping similar perspectives to deepen understanding or mixing perspectives to foster cross-perspective engagement. When grouped in "like" preferences, students listen to each other's reasoning, begin to see their preferred moral framework in action, and start to pay attention to arguments from that perspective. Furthermore, forming groups that represent different combinations of moral perspectives helps students develop skills at engaging across moral differences. When used as a tool to form small groups of four to six students for in class exercises, the MPS can provide useful intergroup information. Beyond that, it may also hold some intragroup value, such as group activities with members of the same Service, area of specialization (e.g., aviators) across Services, or likely future roles (command, policy, or staff work).

The data from the current study support something the authors observed during the previous years of using the MPS as a teaching tool. While not something originally anticipated in the early days of using the MPS, ethics of care emerged as the preferred lens for stu-

dents at the NWC and SEA when examined at large-group levels. This was surprising and unexpected when considering that ethics of care is largely left out of the curriculum at other PME institutions.

When MPS preferences were examined at a large group level, a distinct pattern was seen—the "smile" pattern. It is higher on the ends than in the middle, with ethics of care and virtue being the highest, and duty and consequentialism being lower. At the large-group level, this pattern has been consistent during the five years the MPS was used as a teaching tool. In the current study, ethics of care was the preferred perspective in all four of the large group cohorts measured. This result has important implications for PME. National security practitioners, especially those in the military, serve the public. Their expertise includes the management of violence to maintain public safety. To function, the profession of arms must maintain the public's trust. Hence, ethical behavior is paramount. If national security practitioners use ethics of care as a prevalent perspective in moral reasoning, then the dearth of that moral perspective in the PME curriculum could represent a significant oversight.

An important consideration when using the MPS as a teaching tool is that it is not a stand-alone psychometric instrument that can be effectively used outside of an intentional ethics education curriculum that includes time for reflection, application exercises, and significant faculty development so the students have a guide to answer more advanced questions. Since subject matter experts (SMEs) in ethics are few in PME and in the military at large, this requires intentional faculty and leader development which is ongoing and refreshed on a regular basis to responsibly engage current academic practices and scholarly discussions in the field of ethics. To be effective at using this tool, the authors recommend an in-depth initial faculty development experience with a SME and ongoing quarterly or biannual deepening experiences as the faculty capacity and foundational knowledge increases.

Limitations and Future Research

The current study is not without limitations. The MPS is intended for practical applications within the classroom. Although it may provide insight on a case-by-case basis as a teaching tool, it is not a validated psychometric instrument. For those purposes, the

psychometric properties of the questionnaire (i.e., reliability and validity) would need to be established, along with normative data for the target population.

The study used a cross-sectional design so could not examine issues around causality or changes over time. In addition, participants were from two institutions—NWC and SEA—so findings cannot be generalized to other PME settings or to broader military populations. Future research should include longitudinal designs to assess whether preferences change over time or with operational experience, and experimental designs to evaluate the impact of ethics of care instruction on decision-making performance. Future studies should also be conducted across a variety of PME institutions to assess whether the findings in the current study are replicated in those settings.

Conclusion

The consistent preference of ethics of care across large cohorts at the NWC and SEA challenges the assumption that military professionals' ethical frameworks align most closely with the three traditionally dominant perspectives. This finding has several implications.

First, ethics of care should be explicitly included in PME ethics curricula, as it reflects the actual dispositions of many national security professionals attending the NWC and the SEA. Teaching all four perspectives enhances leaders' abilities to engage across moral differences, an essential capability in Joint environments and courses with international partners. In addition, MPS results can also inform small-group facilitation strategies, improving team cohesion and ethical dialogue.

Faculty development should be an integral part of this addition to PME. Incorporating ethics of care requires faculty to be prepared to address relationality, empathy, and contextual factors alongside character, principles, and consequences.

A desired leader attribute within the profession of arms is that officers have the knowledge and skill to "make ethical decisions based on shared values of the Profession of Arms."[17] Perhaps the

[17] LtGen Glen D. VanHerek, USAF, *CJCSI 1800.01F, Officer Professional Military Education Policy* (Washington, DC: Chairman of the Joint Chiefs of Staff, 15 May 2020).

greatest realization when using the MPS tool is that ethics of care is the primary moral framework used by officers and national security professionals attending the NWC and senior enlisted members attending the SEA. Ethics of care is a moral philosophy that brings a critical perspective that is missing in the three traditional moral views. It also brings insight into the salience of relationality, context, and care in moral deliberation that is critical for holistic moral deliberation and good decision-making. Furthermore, comparing and discussing different moral perspectives builds skills at perspective taking, empathy, uncovering and engaging with students' assumptions, cognitive biases, and tendencies toward moral disengagement.

If PME institutions are largely ignoring ethics of care in their curricula, and ethics of care is a factor in their students' moral reasoning, then PME is missing a key component in ethical reasoning. Accordingly, the current study has the potential to increase awareness of how national security practitioners deliberate moral issues by expanding curricula beyond the dominant moral perspectives of virtue, duty, and consequentialism.

Officers are expected to exercise sound moral judgment as members of the profession of arms.[18] Senior enlisted leaders are expected to recognize their role in promoting sound ethical decisions made within the profession of arms.[19] Good moral deliberation is essential to developing moral judgment and promoting a culture of sound ethical decision-making and execution in action.

If we expect U.S. military leaders to be explicit in their moral deliberations, we must give them the tools to succeed. Including ethics of care in PME is an operational necessity. The work at the NWC and SEA demonstrates that officers, national security professionals, and senior enlisted leaders implicitly use ethics of care in their moral decision-making. Moral perspectives can be complex, but that does not mean that students and faculty cannot effectively engage with that complexity. The MPS is a great place to start.

[18] VanHerek, *CJCSI 1800.01F, Officer Professional Military Education Policy*.
[19] *CJCSI 1805.01C, Enlisted Professional Military Education Policy* (Washington, DC: Chairman of the Joint Chiefs of Staff, 1 November 2021).

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TEACHING BEYOND THE "BAND OF BROTHERS"

Shakespeare at War

Megan J. Hennessey, PhD

Abstract: This article shares course materials, student insights, and instructor lessons learned from a pilot elective at the master's degree-granting Command and Staff College at Marine Corps University. During this eight-session, one credit hour elective, the O-4 and O-5 students learned to explain the influence of storytelling on adults' cognitive and affective development and how to apply that influence to lead others in the profession of arms. Then, students analyzed the rhetorical structure and value of Shakespearean texts within the context of representations of war and in alignment with the core intermediate level professional military education (PME) curriculum. Building on pedagogical precedents set throughout military education institutions and civilian policy schools, the article brings a fresh perspective to incorporating rhetorical analysis instruction into national security curricula. The author offers resources for PME educators considering new coursework, such as discussion points, and targeted excerpts from the Shakespeare canon for readers who might seek to replicate this learning experience in their own organizations.

Keywords: William Shakespeare, storytelling, narrative, historical mindedness, rhetoric, professional military education, PME, profession of arms

The inspirational leader, whether of good or evil character, loves a kind of theater, can use words, and hears their music.

~ Eliot Cohen[1]

List his discourse of war, and you shall hear
A fearful battle rend'red you in music.

~ William Shakespeare[2]

Introduction

Stories take many shapes in military culture. Ranging from sea stories to historical case studies, stories are embedded in the way servicemembers communicate with each other. As a language and modality-agnostic method of transferring information, storytelling is an ancient and universal pedagogy that builds community and contributes to collective sense-making. Hertha D. Wong references the rich Native American warrior storytelling tradition as "commune-bio-oratory (community-life-speaking)" and Frank Usbeck describes post-9/11 storytelling, in particular, as "ritualized practices of relationship-building and mutual rapprochement among U.S. soldiers, veterans, and civilians."[3] The act of sharing through storytelling has become entrenched in the way warfighters understand their lived experiences and, in turn, how they teach and learn.

This article shares course materials, student insights, and instructor lessons learned from a pilot elective applying William Shakespeare's works to the profession of arms in the master's degree-granting Command and Staff College at Marine Corps University. The eight-session, one credit hour elective began with an exploration into the neuroscience of storytelling and the influence of storytelling on adults' cognitive and affective development. Then, students applied findings from Caroline P. D'Abate and Hali Alpert's study on the value of storytelling in leadership and mentorship

[1] Eliot A. Cohen, *The Hollow Crown: Shakespeare on How Leaders Rise, Rule, and Fall* (New York: Basic Books, 2023).
[2] William Shakespeare, *Henry V*, Act 1, Sc. 1, as quoted in *The Oxford Shakespeare: Henry V*, ed. Gary Taylor (Oxford, UK: Oxford University Press, 2012), https://doi.org/10.1093/actrade/9780198129127.book.1.
[3] Hertha D. Wong, *Sending My Heart Back across the Years: Tradition and Innovation in Native American Autobiography* (New York: Oxford University Press, 1992), 6; and Frank Usbeck, *Ceremonial Storytelling: Ritual and Narrative in Post-9/11 US Wars* (Berlin: Peter Lang, 2019), 12.

to their identification of key themes across Shakespeare's writings and those of his contemporaries and Shakespearean adaptations.[4] Finally, students discussed how lessons from Shakespeare's works on war can be applied to military leaders' ability to teach, inspire, and lead others in a time when social and emotional connection is both paramount and challenged. Inspired by U.S. Military Academy professor Elizabeth D. Samat's reflections in her book *Soldier's Heart: Reading Literature Through Peace and War at West Point*, the author shares resources such as discussion points and targeted excerpts from the Shakespeare canon for readers who might seek to replicate this learning experience in their own organizations and concludes with lessons learned from teaching the course.[5] Each section in this article aligns with the topic of a lesson within the course and includes points to consider and readings that students discussed in the seminar.

The Value of Storytelling in Military Education

The course was titled Beyond the *Band of Brothers*: Shakespeare at War and included eight students at the field grade officer rank, all of whom volunteered for this elective out of a catalog of options across the college. There were two international military students included among these eight, one from the United Kingdom and one from France that, though accidental, became valuable during the class's eventual discussion of the Hundred Years' War (fourteenth–fifteenth centuries) and the Wars of the Roses (1455–85) as depicted in Shakespeare's works. However, regardless of the elective students' backgrounds, what makes storytelling an especially valuable tool across the military education continua is its ability to influence readers and listeners to humanize characters beyond artificial barriers like rank and country of origin.

As Randee L. Lawrence and Dennis S. Paige further explain, "Storytelling is a collaborative nonhierarchical process that involves the learners as active agents in the learning process rath-

[4] Caroline P. D'Abate and Hali Alpert, "Storytelling in Mentoring: An Exploratory, Qualitative Study of Facilitating Learning in Developmental Interactions," *Sage Open* 7, no. 3 (2017), https://doi.org/10.1177/2158244017725554.

[5] Elizabeth D. Samat, *Soldier's Heart: Reading Literature through Peace and War at West Point* (New York: Picador, an imprint of Farrar, Straus and Giroux, 2008).

er than passive receivers."[6] In other words, storytelling transcends rank and encourages the team to make sense of the presented problem, conflict, or struggle together. It is especially important for professional military education (PME) educators to recognize that storytelling thereby becomes a collective pedagogy and a group-learning strategy. Anders Engberg-Pedersen and Neil Ramsey carry this line of thought even further, arguing that "war and its knowledge" can be a "rhizomatic becoming," or a cocreation of something entirely new.[7] Regarding PME, this argument is born out in policies such as the *Department of Defense Instruction 1322.35, Military Education*, which advocates for peer learning, among other strategies that are reflective of adult learning principles.[8]

In a global security environment described as volatile, uncertain, complex, and ambiguous (VUCA) the need for warfighters' quick meaning-making and accurate recall is crucial.[9] For those searching for tools to assist in developing these skills, storytelling can help because it appeals to learners' episodic memory, or autonoetic consciousness. As the American Psychological Association elaborates, "Autonoetic consciousness is a corresponding kind of consciousness in which one's knowledge of facts, concepts, and meanings is mediated through an awareness of one's own existence in time" and "one is aware not only of the known or remembered thing but also of one's personal experience in relation to that thing."[10] When using stories, teachers activate this type of cognitive processing and situate new knowledge within the context of individual learners' previous experiences and ways of thinking. This rationale neatly echoes David A. Kolb's experiential learning theory

[6] Randee L. Lawrence and Dennis S. Paige, "What Our Ancestors Knew: Teaching and Learning Through Storytelling," *New Directions for Adult and Continuing Education*, no. 149 (2016): 67, https://doi.org/10.1002/ace.20177.

[7] Anders Engberg-Pedersen and Neil Ramsey, eds. *War and Literary Studies*, Cambridge Critical Concepts Series Cambridge, UK: Cambridge University Press, 2023), 10, https://doi.org/10.1017/9781009052832.

[8] *Department of Defense Instruction (DODI) 1322.35*, vol. 1, *Military Education: Program Management and Administration* (Washington, DC: Department of Defense, 26 April 2022).

[9] Herbert F. Barber, "Developing Strategic Leadership: The US Army War College Experience," *Journal of Management Development* 11, no. 6 (1992): 4–12, https://doi.org/10.1108/02621719210018208; and Lisa Kerr, "From the Archives: From Revolution to Evolution: Expanding Methodologies in PME," *Naval War College Review* 78, no. 1 (2025).

[10] "Autonoetic," APA Dictionary of Psychology, updated 19 April 2018.

with its "concrete experience," "reflective observation," and "abstract conceptualization" phases, in particular.[11]

Even stories previously unknown to learners can have a similarly powerful effect on recall of curricular information when used in a learning environment. This is true because stories are messages encoded with sensory details and are specific to particular experiences, narratives, and events—even if those experiences, narratives, and events are not the learner's own. Here, the structure of the story (i.e., the organization via plot) is more important, perhaps, than the substance. Human brains are hardwired to recognize plot and characters because they are essentially patterns.[12] As Paul B. Armstrong writes, "stories help the brain negotiate the never-ending conflict between its need for pattern, synthesis, and constancy and its need for flexibility, adaptability, and openness to change"; the latter being, of course, qualities that we want to develop in our military leaders.[13] Angus Fletcher, Patricia Enciso, and Mike Beneveniste go into more detail on the power of narrative as a driver of causal reflection, complementing Celestino Perez and Jeffrey Meiser's explorations on causal literacy as an essential skill to be taught in PME curricula.[14]

Stories create a sort of scaffolded episode, or situation model, in the learner's mind that can then be easily and concretely referenced later in a way that other types of memory and cognition may

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[11] David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Englewood Cliffs, NJ: Prentice-Hall, 1984). See David Pierson, "Reengineering Army Education for Adult Learners," *Journal of Military Learning* 1, no. 2 (October 2017): 31–41 for more information on the application of Kolb's theory in PME.

[12] Richard Van Eck, "Digital Game-Based Learning: It's Not Just the Digital Natives Who Are Restless," *EDUCAUSE Review* 41, no. 2 (March/April 2006): 1–16; and P. H. Yuan and M. S. Chen, "A Study of Influence of Storytelling toward Organizational Memory," *Journal of Educational Media & Library Sciences* 45, no. 4 (2008): 461–82.

[13] Paul B. Armstrong, *Stories and the Brain: The Neuroscience of Narrative* (Baltimore, MD: Johns Hopkins University Press, 2020), 11.

[14] Angus Fletcher, Patricia Enciso, and Mike Beneveniste, "Narrative Creativity Training: A New Method for Increasing Resilience in Elementary Students," *Journal of Creativity* 33, no. 3 (December 2023): 100061, https://doi.org/10.1016/j.yjoc.2023.100061; Celestino Perez Jr., "A Modest Proposal for Improving Assessment in Professional Military Education," *War on the Rocks*, 22 February 2019; and Jeffrey Meiser, "Bringing a Method to the Strategy Madness" *War on the Rocks*, 2 May 2024.

not.[15] This is akin to recalling a certain television episode clearly in your mind and, as Marines love to do, sharing quotes from memory. One can surely recognize the value in encoding curricular material in military learners' memories in this way, so clearly and easily referenced when needed.

Stories are powerful instructional tools and are therefore powerful leadership tools. Storytelling can, put simply, help you say what you need to say in a way in which listeners/learners will remember and value it. In their article specific to Army leaders, Jordan Swain and Jeremy Boeh emphasize the outcomes-based nature of storytelling, sharing that it is not "simply spinning a yarn or recounting some humorous or heroic adventure around a campfire," but rather used with a specific end state in mind.[16]

The influence of storytelling on adults' cognitive and affective development is especially well-documented within mentoring and coaching relationships; for example, how the educational institution referenced in this article—Marine Corps University's seminar-based, resident Command and Staff College—considers the relationship of teacher and learner. In a study noteworthy for its diverse and senior-ranking participants across multiple career fields, D'Abate and Alpert explored how frequently mentors use storytelling to achieve certain outcomes from and elicit certain emotions in their mentees (table 1).[17]

In D'Abate and Alpert's findings, teaching others is the primary use of storytelling, although one can see how each of the uses described above could have a place in PME.[18]

Storytelling is already widely recognized as a valuable tool within the global PME community, as evidenced by its coverage in frequently taught curricula by the international Defense Education Enhancement Program (DEEP) organized by NATO and the Part-

[15] R. A. Zwaan, M. C. Langston, and A. C. Graesser, "The Construction of Situation Models in Narrative Comprehension: An Event-Indexing Model," *Psychological Science* 6, no. 5 (1995): 292–97. https://doi.org/10.1111/j.1467-9280.1995.tb00513.x; A. C. Graesser, M. Singer, and T. Trabasso, "Constructing Inferences during Narrative Text Comprehension," *Psychological Review* 101, no. 3 (July 1994): 371–95, https://doi.org/10.1037/0033-295x.101.3.371; and Yuan and Chen, "A Study of Influence of Storytelling toward Organizational Memory."

[16] Jordan Swain and Jeremy Boeh, "4 Storytelling Tips for Army Leaders," Center for Junior Officers, 2 December 2020.

[17] D'Abate and Alpert, "Storytelling in Mentoring."

[18] D'Abate and Alpert, "Storytelling in Mentoring."

Table 1. Using storytelling to achieve outcomes

Rank order	Description	Frequency of use in stories by percentage of total number of stories told to mentees
1	Teaching: the story helps the protege to learn expertise, skills, or knowledge	48%
2	Role modeling: the story role models appropriate (or inappropriate) behaviors to help the protege learn	44%
3	Career progression socialization: the story socializes or orients the protege to the organization, industry, or field	27%
4	Emotional affirming: the story offers the protege support in the form of affirmation, acceptance, or confirmation	21%
5	Emotional calming: the story calms the protege by reducing his or her anxiety or stress	19%

Source: Caroline P. D'Abate and Hali Alpert, "Storytelling in Mentoring: An Exploratory, Qualitative Study of Facilitating Learning in Developmental Interactions," *Sage Open* 7, no. 3 (2017), https://doi.org/10.1177/2158244017725554.

nership for Peace Consortium. This program deploys mobile teams of faculty developers to work with partner nation military education organizations. One lesson in their repertoire is "Storytelling and Case Studies," in which they extend the value of storytelling to the practical application of the case method in the military classroom using the Harvard method. This connection is a logical one. Most cases have plots—beginnings, middles, and ends—as well as conflict (i.e., decision points) and characters. This connection also reinforces the U.S. Department of Defense's prioritization of case studies within a menu of military instructional strategies, as seen in *DODI 1322.35, Military Education*.

Class One: The Art and Science of Storytelling

Points to consider:

1. What is the role of literature and liberal arts in preparation for war?
2. What is the influence of storytelling on adults' cognitive and affective development?
3. How can one apply that influence to lead others in the profession of arms?

Readings:

Lisa Brown, "Storytelling as an Instructional Technique," *Journal of Military Learning* (October 2022): 54–72.

Caroline P. D'Abate and Hali Alpert, "Storytelling in Mentoring: An Exploratory, Qualitative Study of Facilitating Learning in Developmental Interactions," *Sage Open* 7, no. 3 (2017), https://doi.org/10.1177/2158244017725554.

Stephen Denning, "How Storytelling Ignites Action in Knowledge-Era Organisations," *RSA Journal* 149, no. 5501 (2022): 32–34.

Elizabeth D. Samat, *Soldier's Heart: Reading Literature through Peace and War at West Point* (New York: Picador, an imprint of Farrar, Straus and Giroux, 2008).

Why Shakespeare?

Any number of storytellers could provide rich fodder for students to attain the course's two learning outcomes:

1. Explain the influence of storytelling on adults' cognitive and affective development and how to apply that influence to lead others in the profession of arms.
2. Analyze the rhetorical structure and value of texts within the context of representations of war and in alignment with the Command and Staff College core curriculum.

However, Shakespeare provided the richest source material to delve into questions of not only the art and science of storytelling relevant for military learners, but also the situation models the characters in his history tetralogies present for military leaders. The author has translated these situation models into "points to consider" throughout this article, which were also discussed in class at the beginning of each session. By reading the tetralogies (a.k.a. Henriad), students analyzed both the evolution and downfall of England's monarchs during the long periods of war from 1377 to 1485 and, perhaps more importantly, those monarchs' influence on

the militaries and nations they led.[19] No other playwright or author has a canon to match Shakespeare's in this regard.

There is also a strong precedent for Shakespeare's inclusion in PME curricula (e.g., the Great Books for Senior Leaders course taught at the Army's top-level school), and Peter Campbell and Richard Jordan make a strong argument for using Shakespeare's work to teach grand strategy.[20] Of course, Shakespeare's works have also been referenced by military and civil leaders for centuries. In his 2023 book *The Hollow Crown: Shakespeare on How Leaders Rise, Rule, and Fall*, Dr. Eliot Cohen describes how Shakespeare was "adored by both the heroes and the monsters of modern politics," including Abraham Lincoln's love of *Macbeth*.[21] In the early 1920s, then-Major Dwight D. Eisenhower was mentored by Army general Fox Conner to read Shakespeare's plays for insights into soldiers' mannerisms and behaviors.[22] As another example, Richard Ned Lebow describes in detail how the Nazi staging of *The Merchant of Venice* "mobilized Shakespeare's play through textual, staging, and acting choices to make it conform as much as possible to National Socialist ideology."[23] Beyond the substance that can be analyzed through any number of military lenses, the style of Shakespeare's works also provides a proven stimulus to learners' brain activity. Specifically, the syntax of his works contributes to sense-making of uncertain or unfamiliar concepts via verbal inversions, also called functional shift.[24] This relevance of substance

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[19] William Shakespeare, *Richard II, Henry IV*, Part 1, *Henry IV*, Part 2, *Henry V, Henry VI*, Part 1, *Henry VI*, Part 2, *Henry VI*, Part 3, and *Richard III* (Washington, DC: Folger Shakespeare Library, 2024).

[20] Peter Campbell and Richard Jordan, "Forming the Grand Strategist According to Shakespeare," *Texas National Security Review* 3, no. 1 (Winter 2019/2020): 12–33.

[21] Cohen, *The Hollow Crown*, 17.

[22] Dwight D. Eisenhower, *At Ease: Stories I Tell to Friends* (Garden City, NY: Doubleday, 1967), 187.

[23] Richard Ned Lebow, "Unser Shakespeare in Nazi Germany," in *Shakespeare at War: A Material History*, eds. Amy Lidster and Sonia Massai (Cambridge, UK: Cambridge University Press, 2023),175, https://doi.org/10.1017/9781009042383.019.

[24] An example of verbal inversion from *Henry V* is found in Act 3, Sc. 1, lines 33–35: "I see you stand like greyhounds in the slips, straining upon the start. The game's afoot; follow your spirit, and upon this charge cry 'God for Harry, England, and Saint George'!" See also Barbara Mowat and Paul Werstine, "Reading Shakespeare's Language: Henry V," Folger Shakespeare Library, accessed 3 December 2025; Guillaume Thierry et al., "Event-related Potential Characterisation of the Shakespearean Functional Shift in Narrative Sentence Structure," *NeuroImage* 40, no. 2 (April 2008): 923–31, https://doi.org/10.1016/j.neuroimage.2007.12.006.

and unique style makes Shakespeare ideal for exploration in PME contexts.

Historical Mindedness

With the case for Shakespeare being so strong, it may be easy to lose track of his humanity in the context of time. The concept of New Historicism, a school of literary criticism that analyzes texts as indivisible from their historical context, shaped the class discussion. This sense of historical mindedness is not new to PME but has experienced a renaissance of its own in the 2020s due in part to the U.S. Army War College's (USAWC) reference to historical mindedness as a foundational skill for strategic thinkers. The USAWC frames historical mindedness as including elements of structure (historical patterns), agency (who the influencers are), width-depth-context, contingency (events may have happened differently), causation (considering causal logic), origin (how did we get here), lessons learned, empathy (putting aside preconceptions to assess risk and opportunities), and analogies (building heuristics).[25] At Marine Corps University, Marine Corps War College students discuss the value of "thinking in time" via a close reading of Richard E. Neustadt and Ernest R. May's book of the same name, and Command and Staff College students develop their historical mindedness skills in the war studies curriculum.[26] The value of studying history extends to the curricula at international PME institutions, as well.[27] Throughout the Shakespeare elective, students applied historical mindedness throughout their analyses of the primary texts and matched these with their own perspectives as practitioners of the profession of arms.

To first situate Shakespeare in his time during class, we used the *Armada Portrait of Queen Elizabeth I*, ca. 1588, as a visual touchstone. The class reviewed the contemporary events and mindsets

[25] U.S. Army War College, "Historical Mindedness: An Essential Characteristic for Strategists," YouTube video, 7 August 2020; and *Churchill at War*, directed by Malcom Venville (Los Gatos, CA: Netflix, 2024).
[26] Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision-makers* (New York: Free Press, a division of Macmillan, 1986); and Paul D. Gelpi and Bradford A. Wineman, "It's Not Either/Or but How: A 'War Studies' Approach to History in PME," *Marine Corps Gazette* (November 2022).
[27] M. Todd, "Aligning Our Sights: The Role of History in PME," *British Army Review*, no. 193 (17 June 2025).

Figure 1. *The Woburn Abbey version of the Armada Portrait*, ca. 1588, Woburn Abbey, Bedfordshire, UK

Source: U.S. Library of Congress, open domain.

that surely influenced the Shakespearean canon—the Renaissance in Elizabethan England that led to all manners of exploration and expansion, the Protestant Reformation, and the defeat of the Spanish Armada, to name a few. The class then considered specific literary influences, specifically Ovid's *Metamorphoses,* Virgil's *Aeneid,* and Holinshed's *Chronicles. Metamorphoses*, first published in English in 1567 with its tales about the dangers of ambition (Daedalus and Icarus) and love and loss (Orpheus and Eurydice), would have been hugely influential for Shakespeare. It is primarily an epic about transformations, a favorite theme of Shakespeare's and one that the class discussions touched on repeatedly. The *Aeneid*, perhaps the most germane of the three titles for a PME audience, would have driven Shakespeare to consider themes like balancing sense of duty with sacrifice, and, of course, the horrors of war. Finally, Holinshed's *Chronicles*, a copy of which the students saw in person on the last day of class during a visit to the Folger Shake-

speare Library, was Shakespeare's source for England's historical accounts and genealogies.[28]

Rhetorical Analysis

Studying sources for both content and style allowed students to then shift to analyzing Shakespeare's language. We briefly discussed the basics of iambic pentameter and blank verse within the context of Shakespeare's works as performance, with the reminder to students that the plays were intended to be spoken, not read. With this reminder, the class was able to connect once again to the value of storytelling and development of both the cognitive and affective domains via structured and emotive delivery. Diction and delivery are key components of rhetoric that, along with the art and science of storytelling, was a key tenet of the entire course.

From this class on, the author framed the basis of class discussion on the rhetorical analysis of these three questions: (1) What is the message? (2) How is that message communicated? and (3) Is the delivery of the message effective? The class closely read Winston S. Churchill's essay "The Scaffolding of Rhetoric."[29] As England's most famous wartime leader, Churchill was an avid Shakespeare reader and was said to have "mobilized the English language and sent it into war."[30] The class considered this while referencing several of Churchill's speeches and their rhetorical reflections of the soldier king in Shakespeare's *Henry V.* They are included here at length to facilitate potential future use by readers:

1. Speech to the House of Commons (13 May 1940): "We have before us an ordeal of the most grievous kind. We have before us many, many long months of struggle and of suffering. You ask, what is our policy? I can say: It is to wage war, by sea, land, and air, with all our might and with all the strength that God can give us; to wage war against a monstrous tyranny, never surpassed in the dark, lamentable catalogue of human crime. That is our policy. You ask, what

[28] *Holingshed's Chronicles: England, Scotland, and Ireland*, 6 vols. (New York: AMS Press, 1807; 1965 reprint).

[29] Winston S. Churchill, "The Scaffolding of Rhetoric" (unpublished article, November 1897).

[30] Attributed to Edward R. Murrow in "Winston Churchill, 1874–1965," *Oxford Essential Quotations*, 4th ed., ed. Susan Ratcliffe (Oxford, UK: Oxford University Press, 2016).

is our aim? I can answer in one word: It is victory, victory at all costs, victory in spite of all terror, victory, however long and hard the road may be."[31]

2. Broadcast to the British People (19 May 1940): "Today is Trinity Sunday. Centuries ago words were written to be a call and a spur to the faithful servants of Truth and Justice: 'Arm yourselves, and be ye men of valour, and be in readiness for the conflict; for it is better for us to perish in battle than to look upon the outrage of our nation and our altar. As the Will of God is in Heaven, even so let it be'."[32]
3. Speech to the House of Commons (4 June 1940): "Even though large tracts of Europe and many old and famous States have fallen or may fall into the grip of the Gestapo and all the odious apparatus of Nazi rule, we shall not flag or fail. We shall go on to the end, we shall fight in France, we shall fight on the seas and oceans, we shall fight with growing confidence and growing strength in the air, we shall defend our Island, whatever the cost may be, we shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender."[33]
4. Speech to the House of Commons (18 June 1940): "Upon this battle depends the survival of Christian civilization. Upon it depends our own British life, and the long continuity of our institutions and our Empire. The whole fury and might of the enemy must very soon be turned on us. Hitler knows that he will have to break us in this Island or lose the war. If we can stand up to him, all Europe may be free and the life of the world may move forward into broad, sunlit uplands. But if we fail, then the whole world, including the United States, including all that we have known and cared for, will sink into the abyss of a new Dark Age made more sinister, and perhaps more protracted, by the lights of perverted science. Let us therefore brace ourselves to our duties, and so bear ourselves that, if the British Empire and its

[31] Winston Churchill, "Blood, Toil, Tears and Sweat," House of Commons, London, 13 May 1940.
[32] Winston Churchill, "Be Ye Men of Valour," BBC, London, 19 May 1940.
[33] Winston Churchill, "We Shall Fight on the Beaches," House of Commons, London, 4 June 1940.

Class Two: Shakespeare in time and rhetoric

Points to consider:

1. Why is it important to develop historical mindedness as a military learner?
2. How can one apply the fundamentals of rhetoric to leadership in the profession of arms?

Readings:

Winston S. Churchill, "The Scaffolding of Rhetoric" (unpublished article, November 1897).

Leslie Dunton-Downer and Alan Riding, *Essential Shakespeare Handbook* (London: DK, 2004), 9–45.

Stephen Greenblatt, *Will in the World: How Shakespeare Became Shakespeare* (New York: W. W. Norton, 2004).

Lois Potter, *The Life of William Shakespeare: A Critical Biography* (West Sussex, UK: Wiley-Blackwell, 2012), 13–37, 51–57, 90–97.

Andrew Roberts, "Churchill Saw British History through the Eyes of Shakespeare," YouTube, video, 2018.

Michael Whitmore, "Politics, Persuasion, Churchill, and Shakespeare," YouTube, video, 2018.

Commonwealth last for a thousand years, men will still say, 'This was their finest hour'."[34]

5. Victory in Europe Speech (8 May 1945): "I say that in the long years to come not only will the people of this island but of the world, wherever the bird of freedom chirps in human hearts, look back to what we've done and they will say 'do not despair, do not yield to violence and tyranny, march straightforward and die if need be unconquered'."[35]

Analyzing the rhetoric of Churchill's impassioned speeches allowed students to consider an example of language and story in the real application of war in a way that Shakespeare's source material—specifically the Battle of Agincourt (25 October 1415) for *Henry V*, covered in the next class—could not. This was further helped by the recent release of the Netflix documentary series, *Churchill at War*.[36]

[34] Winston Churchill, "Their Finest Hour," House of Commons, London, 18 June 1940.

[35] Winston Churchill, "VE Day," BBC, 8 May 1945.

[36] *Churchill at War*.

Class Three: The Hundred Years' War, the War of the Roses, and Richard II

Points to consider:

1. What makes a leader legitimate? How is that legitimacy perceived by followers and others?
2. How do various types of leadership roles shape a military officer's identity?
3. How should officers consider their legacy as leaders within the context of themselves as individuals, their followers, and their organizations?

Readings:

Keith Dockray, *William Shakespeare, the War of the Roses, and the Historians* (Berkshire UK: Tempus, 2002), 15–42.

William Shakespeare, *Richard II* (Washington, DC: Folger Shakespeare Library, 2024).

Jeffry R. Wilson, *Shakespeare and Game of Thrones* (London: Routledge, 2021).

Leaders' Legitimacy

After an introduction to the chronology and key events of the Hundred Years' War and the Wars of the Roses by Marine Corps University historian Dr. James Lacey—and an entertaining skim of Jeffrey R. Wilson's book *Shakespeare and Game of Thrones*—the class launched into a close reading of *Richard II*.[37] Class three also marked the start of student-led discussions tied to specific excerpts. For example, the British Royal Marine student read the original text and then led a discussion on the "Sceptred Isle Speech," which is John of Gaunt's eulogy to England and a speech that Churchill also invoked during the Great Depression.[38] As the student explained in his accompanying course paper: "At its core the 'Sceptred Isle' speech reflects a sense of nationalism, and English exceptionalism, that Shakespeare retrofitted to medieval England."[39] Spanning beyond its source in medieval England, through Shakespeare's early modern era, and past Churchill's 1930s England to the classroom in Quantico, Virginia, in 2025, the speech allowed a class of modern military officers a mechanism through which to consider patriotism, national and individual identity, and the profession of arms. The

[37] Jeffrey R. Wilson, *Shakespeare and Game of Thrones* (London: Routledge, 2021).

[38] William Shakespeare, *Richard III*, Act II, Sc. 1 (Washington, DC: Folger Shakespeare Library, 2024).

[39] Student excerpts are used with their permission.

class discussion also focused on the challenging concept of legitimacy as, in the play, Richard II's embodiment of the divine right to rule is violently called into question by Henry Bolingbroke's representation of political savvy and the power of popular opinion.

Leading Through Transitions

England's national history continues with the accession of Bolingbroke, or King Henry IV, depicted in parts 1 and 2 of Shakespeare's plays by the same name. The class discussion in this session focused on individual leadership choices in the context of managing others through times of transition, and how to communicate those choices through story. This nested with one of the Command and Staff College student learning outcomes for academic year 2024–25, "Analyze culture, diversity, and change as factors that affect organizational performance and leadership."[40]

Plagued by constant uprisings and doubts about his legitimacy due to his usurpation of the throne from Richard II, Henry IV provides a fascinating case study through which to consider bearing and stability. Even as he claims to "pluck allegiance from men's hearts," Henry IV cannot manage the turmoil within his own line of succession.[41] His anxiety extends into the second part of the play, as he rails against insomnia with the infamous line, "Uneasy lies the head that wears the crown,"[42] Class discussion here revealed personal experiences of students leading through combat in Iraq and Afghanistan, feeling the constant burden of responsibility. One student made the connection in their analysis of this excerpt to the Command and Staff College's Leadership in the Profession of Arms course, explaining that "the curriculum contrasts the idealized Marine Corps ethos of a 'band of brothers' with the psychological realities of trauma under extreme hardship and adversity." Henry IV's physical and spiritual restlessness also served as a transition to reading a more modern work in class, the poem "Night of Battle" by Yvor Winters:

> Impersonal the aim
> Where giant movements tend
> Each man appears the same,
> Friend vanishes from friend.

[40] This learning outcome has since been revised to omit "diversity."
[41] Shakespeare, *Richard III*, Act 3, Sc. 2.
[42] Shakespeare, *Richard III*, Act 3, Sc. 1, 31.

Class Four: *Henry IV*, Parts 1 and 2

Points to consider:

1. How does the burden of redemption influence a leader's decision-making?
2. How does diversity of personalities influence the collective behavior of a unit?
3. How can we understand and manage change through narratives?

Readings:

William Shakespeare, *Henry IV*, Part 1 (Washington, DC: Folger Shakespeare Library, 2024).

William Shakespeare, *Henry IV*, Part 2 (Washington, DC: Folger Shakespeare Library, 2024).

Philip G. Zimbardo and Robert L. Johnson, P*sychology According to Shakespeare: What You Can Learn about Human Nature from Shakespeare's Great Plays* (Lanham, MD: Prometheus Books, an imprint of Globe Pequot, 2024), 53–81.

> In the long path of lead
> That changes place like light,
> No shape of hand or head
> Means anything tonight.
>
> Only the common will
> For which explosion spoke,
> And stiff on field and hill
> The dark blood of the folk.[43]

At this point in the Henriad series, the tension is building toward the Battle of Agincourt and the ultimate ascension of Henry V.

The Power of Lore and Personality

With the course's aim to expose students to diverse forms of rhetoric from both fictional and real military leaders, the students watched a clip from the film *The King*, a loose adaptation of *Henry V*, to prepare for the next class. In the clip, the young king dismounts his horse before his troops and tells them that in their hearts they "are that kingdom united. . . . You are England. . . . England is you." More direct and less flowery than the famous "Band of Brothers"

[43] Yvor Winters, "Night of Battle," in *Poets of World War II*, ed. Harvey Shapiro (New York: Library of America, 2003).

or "Saint Crispin's Day" speech from *Henry V*, the movie nevertheless visually helped to situate the students in the geography and aesthetic leading to the Battle of Agincourt.[44] In class, the students then reviewed the trajectory that led Henry toward that battle, beginning with the siege of the port of Harfleur, Normandy, in August and September 1415. In another of Shakespeare's most famous military speeches, Henry spurs on his hesitant troops at the city walls of Harfleur—they are the forlorn hope, a sixteenth century phrase meaning the small unit of soldiers who are first to breach the walls of a fortification in a siege. He yells,

> Once more unto the breach, dear friends . . .
> When the blast of war blows in our ears,
> Then imitate the action of the tiger:
> Stiffen the sinews, summon up the blood,
> Disguise fair nature with hard-favored rage . . .
> I see you stand like greyhounds in the slips,
> Straining upon the start. The game's afoot.
> Follow your spirit, and upon this charge
> Cry "God for Harry, England, and Saint George!"[45]

Adding to the power of the speech was the president of Marine Corps University, Brigadier General Matthew Tracy's recitation of it as he visited class that day. Historically, Henry wins the battle at Harfleur but at great cost as he lost what historians believe was up to one-third of his force due to the battle and dysentery.[46]

From there, Henry marches his remaining forces across France toward Calais, pursued by the French and forced into a confrontation south of Calais in Agincourt. At this point in class, the students read aloud the "Chorus Before Agincourt," wherein Shakespeare writes of "the poor condemned English, / Like sacrifices, by their watchful fires / Sit patiently and inly ruminate / The morning's danger" to come when the battle begins.[47] It is a sad scene, and a seemingly hopeless one, until Shakespeare explains that Henry is walking among the troops and "Upon his royal face there is no note / How dread an army that enrounded him. . . . That every

[44] *The King*, directed by David Michôd (Los Gatos, CA: Netflix, 2019).
[45] Shakespeare, *Henry IV*, Act 3, Sc. 1, 1–37.
[46] Benjamin Trowbridge, "A Baptism of Fire, Steel, and Stone: Henry V's Army and the Siege of Harfleur," *UK National Archives* (blog), 22 September 2015.
[47] Shakespeare, *Henry IV*, Act 4, Prologue, 23–26.

wretch, pining and pale before, / Beholding him, plucks comfort from his looks."[48] The class discussion then focused on the power of military bearing and stoicism in leadership to transcend the emotion and friction in the moment so that subordinates do not lose heart and instead stay focused on the mission. This is what the profession of arms demands, and Henry, whose worthiness and stature as a leader his father Henry IV questioned in the previous play, now meets the moment and does what is needed, best heard in the Saint Crispin's Day Speech.[49]

The speech's famous lines "We few, we happy few, we band of brothers" inspired, of course, the HBO miniseries *Band of Brothers*, telling the story of the U.S. Army's 101st Airborne Division's Easy Company during World War II, with which the students were very familiar.[50] In his rhetorical analysis of the speech, one student explained, "Henry's powerful rhetoric shapes his soldier's perception of their circumstances, inspiring them to see their disadvantage as a fantastic opportunity to achieve glory and cement their legacies. The speech's focus on memory and storytelling highlights how narratives of war are created and how they can shape the long-lasting cultural memory of a conflict." Through the play *Henry V*, Shakespeare creates a legendary battle through the legends who fought it. For this student, the power of legends is clear, writing that "the Marine Corps recruiting slogan captures the same simple power of William Shakespeare's most famous line from his most famous martial monologue," and the staccato slogan "The Few. The Proud. The Marines." does have a certain resonance with the famous Shakespearean verse.

The class's discussion about the power of lore—with all its advantages and disadvantages—then extended to another legend in English (and French) history, Joan of Arc. In the next series in the Henriad, the *Henry VI* plays, we see the young Frenchwoman who will become a warrior saint present herself to the dauphin of France and seek his permission to fight by testing him in combat: "My courage try by combat, if thou dar'st, / And thou shalt find that I exceed my sex."[51] Convincing the dauphin, who in turn deputizes her

[48] Shakespeare, *Henry IV*, Act 4, Prologue, 36–43.
[49] Shakespeare, *Henry IV*, Act 4, Sc. 3, 21–69.
[50] *Band of Brothers*, created by Tom Hanks and Steven Spielberg, aired on HBO, 9 September–4 November 2001.
[51] Shakespeare, *Henry IV*, Act 1, Sc. 2, 90–91.

Class Five: *Henry V* and *Henry VI*, Parts 1 and 2

Points to consider:

1. What are the advantages and disadvantages of a story that becomes lore in the service?
2. What does it mean to be called to serve in the profession of arms? How do we instill this in others through language and narrative?
3. How does one balance virtue and ambition as a leader?

Readings:

Nancie Saxton, ed., *Poems by Marines in Combat* (Bloomington, IN: Author House, 2010).

William Shakespeare, *Henry V* (Washington, DC: Folger Shakespeare Library, 2024).

William Shakespeare, *Henry VI*, Pt. 1 (Washington, DC: Folger Shakespeare Library, 2024).

William Shakespeare, *Henry VI*, Pt. 2 (Washington, DC: Folger Shakespeare Library, 2024).

William Shakespeare, *Henry VI*, Pt. 3 (Washington, DC: Folger Shakespeare Library, 2024).

to lead his forces, she then urges the French to remain in Orleans and never surrender, to "Fight till the last gasp."[52] These heroes—Henry IV, Joan of Arc, and the others portrayed in the Henriad—are endless source material for rich discussions about the responsibility of leadership by example in combat.

Authenticity and Inner Torment

The class then learned through discussions of *Richard III* and *Macbeth* that legends of heroism can cut both ways: powerful for both the betterment and for the demoralization or even destruction of the unit. Richard III, arguably Shakespeare's most tyrannical leader, presents for the class a compelling question on authenticity in rhetoric: Do you need to believe the story to use it to influence others as a leader? Shakespeare portrays Richard III as a deformed, angry younger brother outside the line of succession who is "determined to prove a villain."[53] Despite his ability in the play to smooth talk his way into a marriage with his brother's widow and, later, onto the throne (with the alleged murder of the young princes along the way), he does not fool Henry VI's widow Margaret of Anjou, who

[52] Shakespeare, *Henry IV*, Act 1, Sc. 2, 130.

[53] William Shakespeare, *Richard III*, Act 1, Sc. 1, 30 (Washington, DC: Folger Shakespeare Library, 2024).

Class Six: *Richard III* and *Macbeth*

Point to consider:
Do you need to believe the story yourself to use it to influence others as a leader?

Readings:
Stephen Greenblatt, "Shakespeare's Close Call with Tyranny," *New Yorker*, 4 May 2018.
William Shakespeare, *Richard III* (Washington, DC: Folger Shakespeare Library, 2024).
William Shakespeare, *Macbeth* (Washington, DC: Folger Shakespeare Library, 2024).
Philip G. Zimbardo and Robert L. Johnson, *Psychology According to Shakespeare: What You Can Learn about Human Nature from Shakespeare's Great Plays* (Lanham, MD: Prometheus Books, an imprint of Globe Pequot, 2024), 141–69.

hurls at him some of Shakespeare's best written insults: "abortive rooting-hog . . . son of hell . . . loathed issue of thy father's loin" among them.[54] Even with his enemies growing in number, Richard's self-confidence remains true until the very bitter end, with no plea for redemption. His case is an intriguing one for questions of authentic leadership.

The title character of *Macbeth* also struggles with the stories he tells to the point of madness. As the protagonist careens toward his fate before the burning forest of Birnam Wood, he grieves the sudden loss of his wife with the speech that "Life's but a walking shadow, a poor player / That struts and frets his hour upon the stage / And then is heard no more. It is a tale / Told by an idiot, full of sound and fury, / Signifying nothing."[55] Philip G. Zimbardo and Robert L. Johnson argue that Macbeth is exhibiting all the signs of a "psychotic break with reality," akin to schizophrenia.[56] Other scholars write of the inner battle Macbeth fights in his own mind, with Harold Bloom explaining that "Macbeth himself can be termed the unluckiest of all Shakespearean protagonists, precise-

[54] Shakespeare, *Richard III*, Act 1, Sc. 3, 225–29.
[55] William Shakespeare, *Macbeth*, Act 5, Sc. 5, 27–31 (Washington, DC: Folger Shakespeare Library, 2024).
[56] Philip G. Zimbardo and Robert L. Johnson, *Psychology According to Shakespeare: What You Can Learn about Human Nature from Shakespeare's Great Plays* (Lanham, MD: Prometheus Books, and imprint of Globe Pequot, 2024), 148.

ly because he is the most imaginative."[57] Yet, he remains loyal to his claim to the throne to the last, refusing to "play the Roman fool and die / On my own sword" and dying by MacDuff's sword instead.[58] One student reflected, "Macbeth's downfall stems from unchecked ambition, a cautionary tale for any leader. Analyzing his trajectory helps leaders recognize the dangers of prioritizing personal gain over ethical duty. It underscores that true leadership is about service and the team's needs, not self-promotion."

Post-War Reflections and the Folger Shakespeare Library

For the penultimate session, the class hosted guest speaker Dr. Nicholas Utzig, assistant professor of English and world languages at the U.S. Military Academy at West Point. Utzig, an Army veteran, led a discussion based on his work titled "Our Wars Are Done: Returning from War in the Drama of Shakespeare and His Contemporaries."[59] He encouraged the students to think of Shakespeare's plays, specifically *Henry V*, *Coriolanus*, and *Much Ado about Nothing*, as prompts for considering military homecomings and for *Titus Andronicus*, *Henry V*, and *Coriolanus* about how wars ought to and ultimately do end.[60] Central to the discussion was the question of purpose, not only in regard to why soldiers go to war in the first place, but who they are when war is no longer a part of their daily lives or identity. Consider Tim Collins, former commanding officer of the British Royal Irish Regiment, who delivered a well-known speech on the eve of the invasion of Iraq in 2003 that was modeled on the *Henry V* Saint Crispin's Day speech. He noted 20 years later that his troops now "look back with dismay" at the "botched occupation of Iraq," and he mused that "perhaps we need a Shakespeare of the future to write a screenplay to remind us that we went with the very best of intentions."[61]

For the last class period, the group traveled north from Quan-

[57] Harold Bloom, *Shakespeare: The Invention of the Human* (New York: Riverhead Books, an imprint of Penguin Putnam, 1998), 519.
[58] Shakespeare, *Macbeth*, Act 5, Sc. 8, 1–2.
[59] Nicholas Utzig, "Our Wars Are Done: Returning from War in the Drama of Shakespeare and His Contemporaries" (PhD diss., Harvard University, 2022).
[60] See also Nicholas Utzig, "Shakespearean Jus Post Bellum: Ethical Ends to War in Henry V," in *Shakespeare Studies*, vol. 51, ed. James R. Siemon and Diana E. Henderson (London: Bloomsbury Publishing, 2023), 73–83.
[61] Tim Collins, "*Henry V* and the Invasion of Iraq," in *Shakespeare at War*, 229.

Class Seven: When the War Is Over

Point to consider:
Do you need to believe the story yourself to use it to influence others as a leader?

Readings:
Nicholas Utzig, "Our Wars Are done: Returning from War in the Drama of Shakespeare and His Contemporaries" (PhD diss., Harvard University, 2022).

tico to Washington, DC, for a guided tour and archival visit at the Folger Shakespeare Library, featuring the world's largest Shakespeare collection and contemporary materials, including art and play production artifacts. This experiential end to the eight-session course aligned with educational research on the value of museums for developing learners' critical thinking skills through seven observable behaviors: observation, interpretation, evaluation, association (i.e., making connections with extant knowledge or experiences), problem finding, comparison, and flexible thinking.[62] As one student reflected, this experience and the class as a whole "allowed me to consider the stories our society tells of the conflicts I had deployed to, and the stories I choose to share with my friends. It made me appreciate all the more the quirky moments with my teammates between the chaos and grind of the war. This wasn't a new discovery for any of us, but it gave us a chance to see it a bit differently and I'm incredibly grateful for it."

Instructor Lessons Learned and Conclusion

When the author considered how they might prepare to teach this class again, they saw several lessons learned: first, they would greatly scale back the number of plays in the syllabus, based on both the students' recommendations and their own sense that the group was overwhelmed by material in such a short course. Instead, the author might focus specifically on *Henry V* and structure the class as a deep dive into the text and context of that play, which would still

[62] Brian Kisida, Daniel H. Bowen, and Jay P. Greene, "Measuring Critical Thinking: Results from an Art Museum Field Trip Experiment," *Journal of Research on Educational Effectiveness* 9, sup. 1 (2016): 171–87, https://doi.org/10.1080/19345747.2015.1086915; and John H. Falk and Lynn D. Dierking, *Learning from Museums: Visitor Experiences and the Needs of Learners* (New York: Altamira Press, an imprint of Rowman & Littlefield, 2000).

allow for an engaging discussion of Churchill's Shakespearean rhetoric and other adaptations. Additionally, the author would enhance the authenticity and military purpose of the summative assessment, replacing the final course paper with a simulated speech to the students' hypothetical units under their leadership. As Collins shared, this type of exercise is surely one that the students will encounter after graduation after their return to the operational forces and so offering it as an assessment in lieu of a traditional academic paper makes good sense.[63] Finally, the author would more explicitly coidentify with students where Shakespeare's characters leverage the empirical value of storytelling and impactful rhetoric based on what we know from cognitive science research.

Teaching this class was a highlight of the author's PME career. The confluence of the students' bright, creative thinking, their willingness to share their relevant combat experiences from the Long War and the complexity of the Shakespearean canon as provocative material for class discussion was invaluable. The author's love of Shakespeare stems from their time earning their master's degree in Shakespeare studies from University College London, with long hours spent in the British Library and on the train back and forth to Stratford-Upon-Avon. To share what they learned from that world with Marine Corps University students was an immense honor, and it is fair to say that they learned more from their shared experiences and analyses than from graduate school.

About the Author

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[63] Collins, "*Henry V* and the Invasion of Iraq."

ENDURANCE AND EXECUTIVE FUNCTION

Implications for Military Education from a Study of Marine Officer Fitness and Cognition

Captain Luke S. Gilman, USMC

Abstract: This study investigates whether physical fitness predicts academic performance in military officers by analyzing data from 541 Marine Corps lieutenants at The Basic School in Quantico, Virginia. While decades of research demonstrate that exercise enhances cognition, no study has examined this relationship using military education outcomes. Statistical analysis revealed that cardiovascular fitness, particularly when measured under load, correlates with higher academic performance among male officers. Endurance course time emerged as the strongest predictor of grade point average ($\beta = -.25$, $p < .01$), followed by gender differences ($\beta = -.24$, $p < .01$), with females scoring nearly 4 percentage points higher when controlling for other variables. Among males, maneuver under fire scores additionally predicted academic performance ($\beta = -.17$, $p < .05$). Notably, muscular fitness showed no relationship with cognitive outcomes, suggesting that aerobic capacity may be more relevant for academic success than isolated strength measures. These findings carry practical implications for professional military education: programs that emphasize cardiovascular conditioning under load may create conditions that support the complex thinking required in modern military operations. The study suggests that integrating endurance assessments could aid talent identification and supports instructional design that blend physical rigor with intellectual development.

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Keywords: physical fitness, cognition, cognitive performance, professional military education, PME, officer training

Introduction

The U.S. Marine Corps describes professional military education (PME) as both the transmission of foundational military knowledge and the cultivation of intellectual habits necessary to mastering the art and science of war.[1] *Learning*, Marine Corps Doctrinal Publication (MCDP) 7, expands on this notion of intellectual habits, challenging Marines to cultivate an "intellectual edge," defined as a set of cognitive competencies which include "problem framing, mental imaging, critical thinking, analysis, synthesis, reasoning, and problem solving."[2] These competencies represent top-down, higher-order cognitive processing skills that largely draw from core executive functions such as working memory, cognitive flexibility, and inhibitory control. While the analogy has its limitations, it can be useful to conceptualize cognition in computational terms: if cognitive strategies are analogous to software, the body and brain serve as the hardware that support such software. Discussion surrounding the optimization of human performance in both warfare and education necessarily requires consideration of the interplay between brain and body, lest it overlook a key component of cognition.

Decades of research demonstrate that exercise triggers chemical changes in the brain that enhance learning and memory.[3] Acute exercise has been shown to increase a variety of neurotrophins, hormones, and other chemical compounds which support adaptations that are favorable to learning, concentration, and memory through

[1] *Marine Corps Order 1553.4B, Professional Military Education (PME)* (Washington, DC: Headquarters Marine Corps, 25 January 2008).

[2] *Learning*, Marine Corps Doctrinal Publication (MCDP) 7 (Washington, DC: Headquarters Marine Corps, 2020), chaps. 1, 6.

[3] Joseph E. Donnelly et al., "Physical Activity, Fitness, Cognitive Function, and Academic Achievement in Children: A Systematic Review," *Medicine and Science in Sports and Exercise* 48, no. 6 (June 2016): 1197–222, https://doi.org/10.1249/MSS.0000000000000901; J. L. Etnier et al., "The Influence of Physical Fitness and Exercise upon Cognitive Functioning: A Meta-analysis," *Journal of Sport and Exercise Psychology* 19, no. 3 (1997): 249–77; and N. E. Logan et al., "Trained Athletes and Cognitive Function: A Systematic Review and Meta-analysis," *International Journal of Sport and Exercise Psychology* 21, no. 4 (2023): 725–49, https://doi.org/10.1080/1612197X.2022.2084764.

neuroplasticity.[4] Production of such molecules are frequently reported to exist in a dose-response relationship to exercise, where the volume of increase is directly tied to the duration and intensity.[5] Additionally, psychological research indicates that regular exercise builds self-control and mental resilience, traits critical for both academic achievement and military leadership.[6]

Despite extensive laboratory evidence linking fitness to cognition, few studies have examined this relationship using military education data. The current study addresses this gap by analyzing whether specific aspects of physical fitness predict cognitive performance in Marine officers undergoing initial training. If certain fitness markers reliably correlate with cognitive outcomes, this information could inform how military institutions structure their education programs to optimize both physical and intellectual development as well as aid talent management.

Research Questions and Hypotheses

This study examines the following question: Do physically fit Marine officers perform better academically? Based on prior research, the author hypothesized that higher aerobic capacity would predict executive control, cognitive resilience, and spatial cognition in Marine Corps officers; that anaerobic capacity would positively cognitive resilience; that muscular fitness would predict executive control; and that coordination would predict executive control. The author also expected aerobic and anaerobic capacity to be correlated, and each cognitive domain to be significantly correlated. Figure 1 summarizes the operational measures and the hypothesized relationships.

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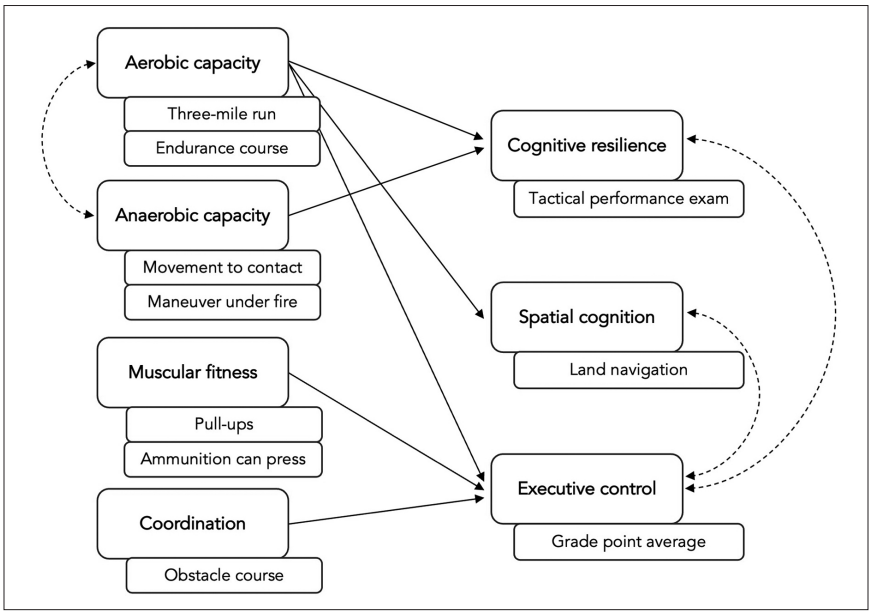
[4] Blai Ferrer-Uris et al., "Can Exercise Shape Your Brain? A Review of Aerobic Exercise Effects on Cognitive Function and Neuro-Physiological Underpinning Mechanisms," *AIMS Neuroscience* 9, no. 2 (2022): 150–74, https://doi.org/10.3934/Neuroscience.2022009.

[5] N. Feter et al., "How Do Different Physical Exercise Parameters Modulate Brain-Derived Neurotrophic Factor in Healthy and Non-Healthy Adults?: A Systematic Review, Meta-Analysis and Meta-Regression," *Science & Sports* 34, no. 5 (October 2019): 293–304, https://doi.org/10.1016/j.scispo.2019.02.001; and Jennifer J. Heisz et al., "The Effects of Physical Exercise and Cognitive Training on Memory and Neurotrophic Factors," *Journal of Cognitive Neuroscience* 29, no. 11 (2017): 1895–907, https://doi.org/10.1162/jocn_a_01164.

[6] Sean P. Mullen and Peter A. Hall, "Editorial: Physical Activity, Self-Regulation, and Executive Control across the Lifespan," *Frontiers in Human Neuroscience* 9 (November 2015): 614, https://doi.org/10.3389/fnhum.2015.00614.

Figure 1. Hypothesized relationships between variables



Source: courtesy of the author, adapted by MCUP

Literature Review: The Fitness-Cognition Connection

Physical activity produces both immediate and long-term changes in brain structure and function. During exercise, the body releases several key molecules that support brain health. Brain-derived neurotrophic factor (BDNF) is a neurotrophin that is essential for activity-dependent synaptic plasticity, learning, and memory.[7] Moderate-to-vigorous exercise markedly increases BDNF concentrations, and research in rodents has shown that regular training amplifies this acute response over time.[8] Meta-analytic evidence shows that sessions of at least 40 minutes at intensities above 65 percent of maximal oxygen uptake (VO_2 max), performed two to three times weekly, provide the greatest stimulus for sustained BDNF up-regulation and associated cognitive benefits.[9] Insulin-like

[7] Patrick Z. Liu and Robin Nusslock, "Exercise-Mediated Neurogenesis in the Hippocampus via BDNF," *Frontiers in Neuroscience* 12, no. 52 (February 2018), https://doi.org/10.3389/fnins.2018.00052.

[8] Liu and Nusslock, "Exercise-Mediated Neurogenesis in the Hippocampus via BDNF"; and R. A. Johnson et al., "Hippocampal Brain-Derived Neurotrophic Factor but Not Neurotrophin-3 Increases More in Mice Selected for Increased Voluntary Wheel Running," *Neuroscience* 121, no. 1 (September 2003): 1–7, https://doi.org/10.1016/S0306-4522(03)00422-6.

[9] Feter et al., "How Do Different Physical Exercise Parameters Modulate BDNF?"

growth factor 1 (IGF-1) is a growth hormone that stimulates neural cell proliferation and differentiation.[10] Both aerobic and resistance exercise boost circulating IGF-1, with resistance training producing the largest increase.[11] Furthermore, higher IGF-1 levels are associated with better cognition in aging populations, highlighting its role in exercise-mediated brain benefits.[12] Catecholamines are a set of three molecules in the body that function as both neurotransmitters and hormones, depending on the context: dopamine, epinephrine (adrenaline), and norepinephrine (noradrenaline).[13] During exercise, dopamine acts primarily as a neurotransmitter to regulate motivation and motor learning, while epinephrine and norepinephrine are associated with attention and arousal.[14] Finally, lactate, a byproduct of anaerobic metabolism and once considered a metabolic waste product, actually fuels brain cells and promotes neuroplasticity.[15]

Beyond biological mechanisms, exercise strengthens psycho-

[10] Adam H. Dyer et al., "The Role of Insulin-Like Growth Factor 1 (IGF-1) in Brain Development, Maturation and Neuroplasticity," *Neuroscience* 325 (June 2016): 89–99, https://doi.org/10.1016/j.neuroscience.2016.03.056.

[11] Diego de Alcantara Borba et al., "Can IGF-1 Serum Levels Really Be Changed by Acute Physical Exercise?: A Systematic Review and Meta-Analysis," *Journal of Physical Activity and Health* 17, no. 5 (2020): 575–84, https://doi.org/10.1123/jpah.2019-0453; A. J. Schwarz et al., "Acute Effect of Brief Low- and High-Intensity Exercise on Circulating Insulin-Like Growth Factor (IGF) I, II, and IGF-Binding Protein-3 and Its Proteolysis in Young Healthy Men," *Journal of Clinical Endocrinology and Metabolism* 81, no. 10 (1996): 3492–97, https://doi.org/10.1210/jcem.81.10.8855791; and Andrea Deslandes et al., "Exercise and Mental Health: Many Reasons to Move," *Neuropsychobiology* 59, no. 4 (2009): 191–98, https://doi.org/10.1159/000223730.

[12] Cellas A. Hayes et al., "Insulin-Like Growth Factor-1 and Cognitive Health: Exploring Cellular, Preclinical, and Clinical Dimensions," *Frontiers in Neuroendocrinology* 76 (January 2025): 101161, https://doi.org/10.1016/j.yfrne.2024.101161.

[13] Bassem Khalil, Alan Rosani, and Steven J. Warrington, "Physiology, Catecholamines," in *StatPearls* (Treasure Island, FL: StatPearls Publishing, 2024).

[14] Guendalina Bastioli et al., "Voluntary Exercise Boosts Striatal Dopamine Release: Evidence for the Necessary and Sufficient Role of BDNF," *Journal of Neuroscience* 42, no. 23 (June 2022): 4725–36, https://doi.org/10.1523/JNEUROSCI.2273-21.2022; and Hassane Zouhal et al., "Catecholamines and the Effects of Exercise, Training and Gender," *Sports Medicine* 38, no. 5 (2008): 401–23, https://doi.org/10.2165/00007256-200838050-00004.

[15] Anna Falkowska et al., "Energy Metabolism of the Brain, Including the Cooperation between Astrocytes and Neurons, Especially in the Context of Glycogen Metabolism," *International Journal of Molecular Sciences* 16, no. 11 (October 2015): 25959–81, https://doi.org/10.3390/ijms161125939; and C. L. Powell, A. R. Davidson, and A. M. Brown, "Universal Glia to Neurone Lactate Transfer in the Nervous System: Physiological Functions and Pathological Consequences," *Biosensors* 10, no. 11 (2020): 183, https://doi.org/10.3390/bios10110183.

logical traits that support academic success. The "strength model of self-control" suggests that willpower functions like a muscle: it can be depleted through use but also strengthened through training.[16] Studies show that individuals who maintain regular exercise routines demonstrate better self-control across multiple life domains, from academic performance to personal habits.[17] This psychological resilience may be particularly relevant in military education, where students must sustain focus through demanding coursework while managing various stressors.

Evidence from Military Populations

Limited research has examined fitness-cognition relationships in military samples. A study of 148 U.S. airmen found that 12 weeks of combined aerobic and resistance training improved memory, processing speed, and problem-solving abilities. [18] Longitudinal Swedish military recruit data from more than 1 million participants revealed that cardiovascular fitness, but not muscular strength, predicted intelligence test scores. [19] However, to the knowledge of the author, no published studies have examined whether fitness predicts academic performance in professional military education settings.

Methods

The study analyzed archival data from 541 Marine Corps lieuten-

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[16] Carolyn L. Powell, Anna R. Davidson, and Angus M. Brown, "Universal Glia to Neurone Lactate Transfer in the Nervous System: Physiological Functions and Pathological Consequences," *Biosensors* 10, no. 11 (November 2020): 183, https://doi.org/10.3390/bios10110183.

[17] Elliot T. Berkman, Alice M. Graham, and Philip A. Fisher, "Training Self-Control: A Domain-General Translational Neuroscience Approach," *Child Development Perspectives* 6, no. 4 (2012): 374–384, https://doi.org/10.1111/j.1750-8606.2012.00248.x; Megan Oaten and Ken Cheng, "Improved Self-Control: The Benefits of a Regular Program of Academic Study," *Basic and Applied Social Psychology* 28, no. 1 (2006): 1–16, https://doi.org/10.1207/s15324834basp2801_1; and Zhiling Zou et al., "Aerobic Exercise as a Potential Way to Improve Self-Control after Ego-Depletion in Healthy Female College Students," *Frontiers in Psychology* 7 (April 2016), https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00501.

[18] Christopher E. Zwilling et al., "Enhanced Physical and Cognitive Performance in Active Duty Airmen: Evidence from a Randomized Multimodal Physical Fitness and Nutritional Intervention," *Scientific Reports* 10 (2020): 17826, https://doi.org/10.1038/s41598-020-74140-7.

[19] Maria A. I. Åberg et al., "Cardiovascular Fitness Is Associated with Cognition in Young Adulthood," *Proceedings of the National Academy of Sciences* 106, no. 49 (December 2009): 20906–11, https://doi.org/10.1073/pnas.0905307106.

ants (435 males, 106 females) attending The Basic School (TBS), the six-month course that all Marine officers complete before undergoing training in their military occupational specialties. Participants ranged from 20 to 41 years old (M = 24.2, SD = 3.57). The dataset included physical fitness scores, academic grades, and basic demographics but lacked information about prior education, commissioning source, or other potentially relevant factors (see appendix, table 1, for complete descriptive statistics).

Measures

The study examined seven distinct metrics of physical fitness performance as independent variables: two events from the Marine Corps Physical Fitness Test (PFT), all three events contained within the Combat Fitness Test (CFT), the TBS obstacle course, and the TBS endurance course. Events included from the PFT were pull-ups and three-mile run times (plank times were excluded from consideration as 100 percent of the sample achieved the maximum score). Events within the CFT include a timed 880-yard run referred to as the movement to contact (MTC), a single set of maximum 30-pound ammunition can overhead presses within two minutes, and a high-intensity obstacle course referred to as the maneuver under fire (MUF). The dependent variables included student GPA, which represents cumulative performance on five written academic examinations, two land navigation performance evaluations, and one written examination administered in a field environment in a state of stress called the Tactical Performance Exam (TPE). While the cognitive performance measures are admittedly imperfect proxies for specific cognitive domains (e.g., GPA reflects many factors beyond executive function, including prior knowledge, study habits, and test-taking skills), they represent real-world outcomes that matter for military officer development. The use of actual academic grades rather than laboratory cognitive tests provides practical relevance at the cost of some construct precision.

Results

Data Analysis

Data were analyzed using IBM SPSS Statistics version 30.0.[20] Variables were each assessed for normality through visual inspections

[20] "IBM SPSS Statistics Desktop 30.0" IBM.com, last modified 1 March 2025.

of histograms as well as skewness and kurtosis values.[21] Correlation coefficients were generated and examined for potential issues of collinearity among predictor variables. Variance inflation factor (VIF) values were additionally reviewed for issues of collinearity. Given the highly related nature of several measures of fitness (e.g., three-mile run and MTC), some degree of collinearity was expected. Variables were then assessed for assumptions of linearity and homoscedasticity prior to inclusion in the models. Finally, multiple regression models were run for GPA and the TPE. Due to violations of normality, land navigation was deemed unable to be included as a dependent variable in a regression model. Each model was run three times, once for each gender and once with all participants. While the total sample was $N = 541$ after data were collected, only participants containing a complete set of values for each variable were included within the models. This resulted in sample sizes of $n = 54$ for females and $n = 288$ for males. Alpha level for statistical significance was set at $p < .05$.

Data Transformation

Variables of fitness that were time based (three-mile run, MTC, MUF, obstacle course, and endurance course) were all converted into total number of seconds. For example, an individual who ran 20 minutes for three miles was assigned a score of 1200.00. Due to non-normal distributions observed for both genders within the pull-up variable, pull-ups were transformed into a dichotomous, categorical variable based on whether an individual completed the maximum number of repetitions for their respective age and gender. The data were stratified by gender prior to generating correlation coefficients and regression models to account for expected differences in fitness scores among male and female participants.

Key Finding: Cardiovascular Fitness Is Related to Academic Success in Male Officers

Among male officers, every measure of cardiovascular fitness showed significant negative correlations with academic performance (recall that lower times indicate better fitness, therefore, a

[21] *Skewness* refers to the extent to which data are not symmetrical; *kurtosis* refers to how the tails of a distribution differ from the normal distribution.

negative correlation aligns with the hypothesized relationship) (see appendix, table 3). The strongest relationship emerged between endurance course time and GPA (r = -.25, p < .001), followed by three-mile run time (r = -.20, p < .001). Multiple regression analysis confirmed that endurance course time was the strongest predictor of GPA among males (β = -.25, p < .001) when controlling for age and other fitness variables. In practical terms, male officers who completed the endurance course 1 standard deviation faster than the mean scored approximately 1.5 percentage points higher on their academic grades. The MUF course, another load-bearing cardiovascular event, also significantly predicted academic performance (β = -.17, p < .05). Together, the model explained 10 percent of variance in male GPAs, a small but not insignificant effect given the many factors that influence academic success (see appendix, table 8).

Gender Differences Warrant Further Investigation

Female officers scored nearly 4 percentage points higher on academic assessments when controlling for fitness and age (β = -.24, p < .01) (see appendix, table 9). However, no single fitness variable significantly predicted female academic performance. This finding may reflect limited statistical power due to the small female sample (n = 54) rather than a true absence of relationship. The model explained 24 percent of variance in female GPAs, though age was the only significant individual predictor (see appendix, table 7).

Muscular Fitness Shows No Relationship with Cognition

Contrary to hypothesized relationships, pull-up performance showed no correlation with any cognitive outcome for either gender (see appendix, table 5), suggesting that upper body strength may not offer the same cognitive benefits as cardiovascular fitness. It is worth noting, however, that the transformation of pull-up scores into a binary, dichotomous variable likely reduced measurement precision and therefore this finding should be taken lightly.

Performance under Stress Yields Mixed Results

The Tactical Performance Exam, designed to assess cognitive function under field stress, showed weak relationships with fitness variables. While individual fitness measures correlated with TPE scores

in simple regressions, multiple regression models failed to identify significant predictors (see appendix, tables 10, 11, and 12). This may indicate that performance under acute stress involves different mechanisms than classroom learning, but it is more likely that the TPE lacks sensitivity to detect fitness-related cognitive differences.

Discussion: Implications for Military Education

Why Does Cardiovascular Fitness Matter More than Strength?

The selective relationship between aerobic fitness and academic performance aligns with research showing that sustained cardiovascular exercise consistently produces the strongest neurobiological adaptations. Aerobic training increases blood flow to the prefrontal cortex, stimulates growth factor production, and enhances mitochondrial function in brain cells. These mechanisms directly support the sustained attention, working memory, and cognitive flexibility required for academic learning. The relative impact of load-bearing endurance on GPA compared to unloaded aerobic capacity was not expected and deserves attention. The endurance course, a five-mile run under combat load, predicted academic performance more strongly than the unloaded three-mile run. This is notable as the two measures were thought to measure the same underlying construct in aerobic capacity. The difference may reflect absolute rather than relative aerobic capacity, as carrying weight neutralizes the advantage of lower body mass. Alternatively, success in prolonged, uncomfortable physical challenges may indicate underlying psychological traits like grit or self-discipline that simultaneously support academic achievement.

Alternative Explanations and Limitations

Several factors limit the study's findings. First, correlation does not establish causation. Physically fit officers might perform better academically due to underlying personality traits like conscientiousness rather than fitness itself. Second, using GPA as a proxy for executive function is somewhat imprecise; grades reflect numerous factors including prior knowledge, study habits, instructor variability, and test-taking skills. Third, missing demographic data

about education backgrounds, commissioning sources, and others prevents a more complete understanding of covariates. The gender disparity in findings also requires careful interpretation. The small female sample size (n = 54) provided limited statistical power to detect relationships that may exist. Additionally, sociocultural factors affecting female officers' experiences at The Basic School could influence both fitness performance and academic outcomes in ways not captured by this analysis. Future research with larger, more balanced samples should be conducted before drawing conclusions about gender differences.

Practical Applications for Professional Military Education

Despite the limitations, the findings suggest several practical applications for military education programs. First, institutions should protect or enhance cardiovascular training opportunities, particularly surrounding cognitively demanding instruction. If aerobic exercise creates neurobiological conditions favorable to learning, intentionally scheduling targeted cardiovascular training around classroom instruction could optimize academic outcomes. Second, programs that require decision-making under fatigue should deliberately rehearse that state. Incorporating loaded movement into tactical decision exercises, staff planning drills, or problem-solving scenarios could better prepare officers for the cognitive demands of combat. Third, endurance metrics might supplement traditional selection and assessment tools. While fitness alone should never determine educational or career opportunities, cardiovascular capacity under load could serve as a small but useful indicator for identifying officers likely to excel in cognitively demanding assignments. This is particularly relevant for highly competitive programs and billets, such as funded doctoral education opportunities or schools like the School of Advanced Warfighting, where the performance margins between candidates are extremely slim and additional discriminating factors are valuable. Finally, military education should embrace curricula that intentionally blend physical and intellectual challenges. Rather than treating fitness and academics as separate domains, courses could design learning experiences that develop both simultaneously. Examples might include land navigation exercises requiring route planning under time pressure, tacti-

cal decision games conducted intermittently during foot marches, or problem sets completed between physical training stations.

Future Research Directions

This study raises questions warranting further investigation. Future research should employ validated cognitive assessments rather than grades, allowing more precise measurement of specific executive functions. Including psychological measures of grit, self-control, and motivation in regression models would help disentangle whether fitness directly enhances cognition or merely correlates with traits that support both physical and academic performance. Experimental designs that manipulate training regimens while tracking cognitive outcomes would help determine whether these relationships are causal. For instance, randomly assigning PME students to different physical training programs emphasizing aerobic, anaerobic, or resistance training, then comparing academic performance would clarify which fitness components most benefit cognition. Longitudinal studies following officers through multiple education levels could reveal whether fitness habits and cognition relationships persist or evolve across career stages. Research should also examine these relationships across different military populations and educational contexts. Do similar patterns emerge in enlisted professional military education? How do deployment experiences affect the fitness-cognition relationship? Understanding these dynamics across diverse service member populations would support evidence-based policy for the total force.

Conclusion

This study provides initial evidence that cardiovascular fitness, particularly under load, correlates with academic success in Marine officers. While effect sizes are modest and causation was not established, the pattern suggests that aerobic capacity may serve as one indicator of cognitive potential in military education settings. More importantly, the findings highlight opportunities to design training that develops both the physical stamina and mental agility required for military leadership.

Professional military education has always recognized that effective military leaders need both strong bodies and sharp minds. This research suggests these qualities may be more interrelated than

traditionally assumed. By understanding how physical and cognitive development interact, military institutions can create educational experiences that produce leaders capable of thinking clearly and making high quality decisions, even when exhausted, stressed, and challenged. In an era where military operations demand unprecedented cognitive performance, optimizing the fitness-cognition connection may provide an edge. The path forward requires continued research, thoughtful experimentation, and careful implementation. Fitness should complement, not replace, quality instruction and assessment. But for military education programs seeking every advantage in developing cognitively capable leaders, purposeful integration of the two domains may offer an additional layer of support.

About the Author

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Appendix

Table 1. Descriptive statistics of variables

Variable	N	Missing	M	SD	Minimum	Maximum
Pull-ups (M)	420	15	21.4	2.89	10	36
Pull-ups (F)	100	6	10.2	3.32	3	23
Three mile run (M)	421	14	1242.0	99.7	993.0	1540.0
Three mile run (F)	98	8	1374.0	107.0	1159.0	1643.0
Movement to contact (M)	427	8	152.0	9.32	132	187
Movement to contact (F)	101	5	176.0	13.7	137	212
Ammunition can press (M)	427	8	118	8.28	74	159
Ammunition can press (F)	101	5	79.3	13.0	44	125
Maneuver under fire (M)	427	8	130.0	12.3	100.0	175.0
Maneuver under fire (F)	101	5	161.0	17.0	108.0	201.0
Obstacle course (M)	335	100	215.0	41.8	131.0	394.0
Obstacle course (F)	65	41	340.0	77.0	199.0	530.0
Endurance course (M)	386	49	4285.0	401.0	3180.0	6072.0
Endurance course (F)	96	10	5025.0	602.0	3861.0	7440.0
Exam 1	541	0	84.0	7.73	60.0	100
Exam 2	541	0	82.1	9.41	59.0	99.5
Exam 3	541	0	89.5	7.44	65.0	100
Exam 4	541	0	85.2	8.83	60.0	100
Exam 5	541	0	85.4	7.15	58.0	100
Grade point average	541	0	85.9	5.89	68.7	100
Day land navigation	541	0	84.4	13.4	59	100
Night land navigation	541	0	84.0	15.9	58	100
Tactical performance exam	541	0	69.3	12.0	31.0	96.0

Source: courtesy of the author, adapted by MCUP.

Table 2. Pearson's R correlation coefficients, females

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	__												
2. Three-mile run	.17	__											
3. Movement to contact	.26*	.73***	__										
4. Maneuver under fire	.11	.56***	.73***	__									
5. Obstacle course	.40***	.39**	.48***	.36**	__								
6. Endurance course	.11	.49***	.46***	.56***	.38**	__							
7. Exam 1	-.23**	-.06	.01	-.13	-.22	-.10	__						
8. Exam 2	-.32***	-.09	-.06	-.09	-.18	-.11	.42***	__					
9. Exam 3	-.28**	-.12	-.2*	-.18	-.33**	-.13	.49***	.52***	__				
10. Exam 4	-.09	.03	.09	.03	.05	-.12	.47***	.58***	.42***	__			
11. Exam 5	-.07	-.05	.02	-.04	-.08	-.14	.25**	.51***	.33***	.31**	__		
12. Grade point average	-.29**	-.10	-.08	-.13	-.23	-.16	.66***	.83***	.68***	.81***	.68***	__	
13. Tactical Performance Exam	-.04	-.09	-.04	-.06	.13	.00	.23*	.28**	.28**	.36***	.36***	.42***	__

Note: * p < .05, ** p < .01, *** p < .001
Source: courtesy of the author, adapted by MCUP.

Table 3. Pearson's R correlation coefficients, males

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	__												
2. Three-mile run	.19***	__											
3. Movement to contact	.36***	.56***	__										
4. Maneuver under fire	.11*	.28***	.05***	__									
5. Obstacle course	.18**	.34***	.31***	.42***	__								
6. Endurance course	.29***	.58***	.42***	.28***	.48***	__							
7. Exam 1	.01	-.16**	-.10*	-.22***	-.18**	-.19***	__						
8. Exam 2	.01	-.17***	-.15**	-.18***	-.11*	-.29***	.46***	__					
9. Exam 3	-.03	-.16**	-.12*	-.18***	-.16**	-.24***	.50***	.49***	__				
10.Exam 4	.07	-.07	-.04	-.16**	-.12*	-.14**	.47***	.48***	.41***	__			
11. Exam 5	-.02	-.16**	-.07	-.11*	-.01	-.16**	.36***	.41***	.38***	.25***	__		
12. Grade point average	.02	-.20***	-.14**	-.22**	-.14*	-.25***	.69***	.76***	.79**	.64***	.70***	__	
13. Tactical Performance Exam	-.06	-.15**	-.14**	-.09	-.12	-.19***	.31***	.38***	.35***	.21***	.24***	.41***	__

Note: * p < .05, ** p < .01, *** p < .001
Source: courtesy of the author, adapted by MCUP.

Table 4. Pearson's R correlation coefficients, all participants

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	__												
2. Three-mile run	.09*	__											
3. Movement to contact	.13**	.70***	__										
4. Maneuver under fire	-.03	.54***	.77***	__									
5. Obstacle course	.00	.52***	.65***	.67***	__								
6. Endurance course	.08	.67***	.64***	.61***	.63***	__							
7. Exam 1	-.03	-.12**	-.05	-.14***	-.12*	-.13**	__						
8. Exam 2	-.05	-.08	-.01	-.04	-.04	-.08	.45***	__					
9. Exam 3	-.06	-.14**	-.12**	-.15***	-.18***	-.18***	.49***	.51***	__				
10. Exam 4	.05	-.04	.00	-.08	-.05	-.09	.47***	.48***	.41***	__			
11. Exam 5	-.03	-.11*	-.02	-.05	.00	-.10*	.34***	.43***	.37***	.27***	__		
12. Grade point average	-.03	-.14**	-.06	-.12**	-.10*	-.16***	.68***	.77***	.79***	.65***	.69***	__	
13. Tactical Performance Exam	-.04	-.13**	-.11*	-.08*	-.09	-.15**	.28***	.35***	.35***	.22***	.26***	.41***	__

Note: * p < .05, ** p < .01, *** p < .001
Source: courtesy of the author, adapted by MCUP.

Table 5. Point biserial correlation coefficients, pull-ups

Variable	Female	Male
1. Pull-ups	__	__
2. Age	-.09	.00
3. Three-mile run	-.11	-.14**
4. Maneuver to contact	-.16	-.13*
5. Maneuver under fire	-.31**	-.31**
6. Obstacle course	-.25	-.31***
7. Endurance course	-.24*	-.17**
8. Exam 1	.04	.04
9. Exam 2	.03	.09
10. Exam 3	-.05	.13**
11. Exam 4	-.06	-.04
12. Exam 5	.18	.05
13. Grade Point Average	.04	.07
14. Tactical Performance Exam	-.08	-.12*

Note: * p < .05, ** p < .01, *** p < .001
Source: courtesy of the author, adapted by MCUP.

Table 6. Spearman's rho correlation coefficients, land navigation

Variable	1. (Female)	2. (Female)	1. (Male)	2. (Male)
1. Day navigation	—	—	—	—
2. Night navigation	.03	—	.33**	—
3. Pull-ups	-.01	-.07		.04
4. Age	-.08	.11	.01	.00
5. Three-mile run			.09	
6. Maneuver to contact	-.07	-.18	-.1*	-.08
7. Maneuver under fire	-.12	-.12	-.08	-.12*
8. Obstacle course	-.10	-.17	-.09*	-.11*
9. Endurance course	-.13	-.11	-.13*	-.16**
10. Exam 1	-.01	-.23*	-.16**	-.17***
11. Exam 2	.02	.00	.09*	.14**
12. Exam 3	.28**	.13	.16***	.19***
13. Exam 4	.30**	.14	.09	.17***
14. Exam 5	.22*	.01	.07	.19***
15. Grade point average	.28**	.16	.17***	.11*
16. Tactical Performance Exam	.33***	.13	.17***	.22***
	.19*	.00	.18***	.15**

Note: * $p < .05$, ** $p < .01$, *** $p < .001$
Source: courtesy of the author, adapted by MCUP.

Table 7. Multiple regression predicting GPA, females

Model 1	B	SE	β	t	Sig.
Intercept	117.019	13.221		8.851	< .001
Age	-1.242	.408	-.439	-3.041	.004
Pull-ups	-.953	1.531	-.085	-.622	.537
Three-mile run	.000	.010	.009	.045	.964
Movement to contact	.040	.094	.102	.419	.677
Maneuver under fire	-.034	.071	-.101	-.479	.634
Obstacle course	-.006	.011	-.090	-.562	.577
Endurance course	.000	.002	-.035	-.204	.840

Note: $R^2 = .24$, $F(7, 46) = 2.061$, $p < .001$
Source: courtesy of the author, adapted by MCUP.

Table 8. Multiple regression predicting GPA, males

Model 1	B	SE	β	t	Sig.
Intercept	107.889	6.167		17.496	< .001
Age	.062	.107	.036	.578	.564
Pull-ups	-.217	.726	-.018	-.299	.765
Three-mile run	-.002	.005	-.036	-.450	.653
Movement to contact	.041	.054	.062	.763	.446
Maneuver under fire	-.086	.035	-.171	-2.440	.015
Obstacle course	.008	.010	.057	.821	.412
Endurance course	-.004	.001	-.272	-3.621	< .001

Note: $R^2 = .10$, $F(7, 280) = 4.65$, $p < .001$
Source: courtesy of the author, adapted by MCUP.

Table 9. Multiple regression predicting GPA, all participants

Model 1	B	SE	β	t	Sig.
Intercept	109.018	6.053		18.010	< .001
Age	-.019	.103	-.011	-.184	.854
Gender	-3.923	1.390	-.243	-2.822	.005
Pull-ups	-.611	.658	-.051	-.928	.354
Three-mile run	-.002	.004	-.046	-.548	.584
Movement to contact	.048	.046	.109	1.032	.303
Maneuver under fire	-.063	.031	-.186	-2.014	.045
Obstacle course	-.003	.007	-.037	-.438	.661
Endurance course	-.003	.001	-.252	-3.138	.002

Note: $R^2 = .08$, $F(8, 333) = 3.742$, $p < .001$
Source: courtesy of the author, adapted by MCUP.

Table 10. Multiple regression predicting Tactical Performance Exam, females

Model 2	B	SE	β	t	Sig.
Intercept	83.641	34.206		2.445	.018
Age	-1.034	1.057	-.154	-.979	.333
Pull-ups	-2.953	3.962	-.110	-.741	.463
Three-mile run	-.003	.027	-.027	-.125	.901
Movement to contact	.170	.244	.185	.696	.490
Maneuver under fire	-.225	.184	-.280	-.1223	.227
Obstacle course	.041	.029	.249	1.419	.163
Endurance course	.001	.006	.033	.177	.860

Note: $R^2 = .09$, $F(7, 46) = .667$, $p = .699$
Source: courtesy of the author, adapted by MCUP.

Table 11. Multiple regression predicting Tactical Performance Exam, males

Model 2	B	SE	β	t	Sig.
Intercept	102.267	12.598		8.118	< .001
Age	.091	.219	.027	.415	.679
Pull-ups	2.517	1.484	.105	1.697	.091
Three-mile run	.004	.010	.029	.361	.719
Movement to contact	-.142	.110	-.109	-1.299	.195
Maneuver under fire	-.036	.072	-.036	-.501	.616
Obstacle course	.018	.020	.063	.872	.384
Endurance course	-.004	.002	-.138	-1.780	.076

Note: $R^2 = .05$, $F(7, 280) = 1.993$, $p < .05$
Source: courtesy of the author, adapted by MCUP.

Table 12. Multiple regression predicting Tactical Performance Exam, all participants

Model 2	B	SE	β	t	Sig.
Intercept	92.740	12.691		7.308	< .001
Age	-.049	.216	-.013	-.227	.821
Gender	1.386	2.915	.042	.476	.635
Pull-ups	1.798	1.379	.073	1.303	.193
Three-mile run	.001	.009	.006	.073	.942
Movement to contact	-.048	.097	-.053	-.494	.622
Maneuver under fire	-.060	.066	-.087	-.917	.360
Obstacle course	.028	.015	.160	1.844	.066
Endurance course	-.004	.002	-.139	-1.697	.091

Note: $R^2 = .04$, $F(8, 333) = 1.743$, $p = .08$
Source: courtesy of the author, adapted by MCUP.

DEEPENING ARMY OFFICERS' INITIAL TRAINING

Conclusions from a Comparative Analysis between the U.S. and the Spanish Army

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Abstract: One of the main elements that has been absent in the academic literature exploring officer training in Spain is the fact that there is no specific training that lieutenants undertake before being promoted to captains. In practical terms, that means when lieutenants are trained, the Spanish military is *de facto* forming also captains. Thus, this article's research question is whether that might constitute a weakness and, if it is, what would be the best way to solve it. In that regard, as means for benchmarking, the authors conducted a comparative analysis with the U.S. model. In a later stage, they designed and implemented a qualitative approach through focus groups and interviews with all the directors of the army academies: Academia General Militar (AGM) and all the branch academies (infantry, cavalry, artillery, engineers, signal, and aviation). They then analyzed the data using a coding tree that could contribute to presenting the discussion. The main conclusion is that even if having a separate course for captains would be positive, the impact to the army should also be carefully considered to minimize possible derived inconveniences.

Keywords: Spanish Army, military training and education, professional competencies

Introduction

The professional competences army cadets are meant to achieve to become lieutenants and captains are in constant change. That has a direct impact on the training programs they need, as stated by Organisation for Economic Co-operation and Development (OECD): "the complexity of the demands generated by an increasingly interdependent, changing and conflictual world places the objectives of education and the strategies to achieve education goals in center stage of the debate on broad educational reform."[1] The importance for Spain has been condensed in *Entorno Operativo 2035* (*Operational Environment 2035*) issued by the Spanish Armed Forces. It states that they are living in a changing and uncertain world and, consequently, training programs will need to be updated according to emergent technologies and evolving operational procedures.[2]

In the process of this public policy and academic discussion, the authors undertook an ambitious research project that would examine whether the Spanish Army should redefine the level of professional competences to be achieved by its cadets to become officers and, in particular, the level of those related to the specific branch. They asked: Should that level be left up to company command for action, or should cadets obtain the required specific professional competences to command platoon-level units?

Thus, the main objective of this article is to first conduct rigorous academic research to reach valid academic conclusions to recommend the level of professional competencies that can be achieved by Spanish Army cadets to become officers. In the latter case, the Spanish Army would need to require lieutenants, prior to their promotion to the rank of captain, to attend a currently nonexistant educational program to acquire those specific competencies required at the company level.

The answer to this question is important for two main reasons. First, because as stated above, the Spanish Army precommissioning officers' curriculum is very dense due to the demanding professional competencies currently required for cadets: reducing the level of specific competencies would alleviate the existing high

[1] Dominique Simone Rychen and Laura Hersh Salganik, eds., *Defining and Selecting Key Competencies* (Seattle, WA: Hogrefe & Huber Publishers, 2001), 1.
[2] *Entorno Operativo 2035* [Operational Environment 2035] (Madrid, Spain, Ministry of Defence, 2022), 100.

workload for cadets; as Rafael Martínez states "cadets educational training should be adapted to new realities, not based on addition of contents but on its modernization and reform."[3] Second, there is no educational program to prepare or complete the preparation of lieutenants for the moment they are promoted to captains and are required to command a company-type unit, which usually happens about five years after being commissioned.

Regarding the methodology, one of the main strengths of this research is the superb access to the field as a result of the authors' involvement in professional military education. This was combined with the appropriate design of the empirical research with combined participatory observation and conducting interviews with key informants, which rounded out the research and allowed for quality data that could later be analyzed and processed.

Officer's Professional Competence

The issue of officer's professional competence has been covered in relevant literature. Thus, certain authors such as Manuel Riesco González observed that educational curricula must focus its goals on students' acquisition competencies.[4] However, there is no universal concept for professional competence. On the contrary, we find diverse theories and definitions that might lead some to confusion.[5]

According to Riesco Gonzalez, there are three main approaches: the first, which is focused on personal attributes (mainly attitude and capabilities); the second, which conceives competence as the capability to execute tasks; and the third, which is the integration of both.[6]

As a result, according to Riesco Gonzalez, competencies are related to capabilities, skills, or internal qualities.[7] In addition, if

[3] Rafael Martinez, *Quiénes son y qué piensan los futuros oficiales y suboficiales del Ejército español* [Who are the future officers and noncommissioned officers of the Spanish Army and what do they think?] (Barcelona, Spain: Barcelona Centre for International Affairs, CIDOB, 2004), 32.

[4] Manuel Riesco González, "El Enfoque por competencias en el EEES y sus implicaciones en la enseñanza y el aprendizaje [The competency approach in the EHEA and its implications in teaching and learning]" *Tendencias Pedagógicas* 13 (2015): 17, https://doi.org/10.15366/tp2008.13.004.

[5] Rychen and Salganik, *Defining and Selecting Key Competencies*, 6.

[6] Riesco González, "El Enfoque por competencias en el EEES y sus implicaciones en la enseñanza y el aprendizaje."

[7] Riesco González, "El Enfoque por competencias en el EEES y sus implicaciones en la enseñanza y el aprendizaje."

we observe more specialized academic literature, models address other aspects of leadership: attributes, traits, characteristics and function, task, behavioral, which may prove to be more valuable.[8]

Thus, in the framework of the Tuning project "competencies are described as points of reference for curriculum design and evaluation."[9] As a result, competence represents a dynamic combination of knowledge, understanding, skills, and abilities and refers to implicit characteristics of a student who is expected to perform at a certain level. As a result, knowledge, skills, motivation, values, and personality constitute those characteristics that need to be developed.

In sum, competence would be the intersection of these components: knowledge, skills, attitudes, and values. While knowledge and skills (specific competences) are easier to be developed, motivation, values, and personality (generic competences) require more effort according to Mario de Miguel Diaz.[10]

While specific competencies are more closely associated to each area of knowledge, generic competencies are shared by most university degrees. However, both generic and specific competences need to be integrated during the teaching–learning process and cannot be developed separately.[11] Thus, it is not possible to develop generic competencies if this process is not done in the context of the particular area of knowledge within a specific job application. Moreover, professional competencies need to be exercised in the appropriate professional context or situation so that the student can respond in a proper way.[12]

Therefore, according to de Miguel Diaz, it is important for the

[8] Jeffrey D. Horey and Jon J. Fallesen, "Leadership Competencies: Are We All Saying the Same Thing?" (paper presented at the 45th Annual International Military Testing Association Meeting, Pensacola, FL, November 2003).
[9] Julia González and Robert Wagenaar, *Tunning Education Structures in Europe* (Bucharest, Romania: European Higher Education Area, 2003).
[10] Mario de Miguel Diaz, *Modalidades de Enseñanza centradas en el Desarrollo de Competencias: Oreintaciones para Promover el Cambio Metodologico en el Espacio Europeo de Education Superior* [Teaching Modalities Focused on Competence Development: Approaches to Promote Methodological Change in the European Higher Education Area] (Spain: Ministry of Education and Science, University of Oviedo, 2005), 26.
[11] de Miguel Diaz, *Modalidades de Enseñanza centradas en el Desarrollo de Competencias*, 27.
[12] G. P. Bunk, "La transmisión de las competencias en la formación y perfeccionamiento profesionales de la RFA" [The transfer of competences in the vocational training and further training of the FRG], *Revista Europea* (January 1994), 11.

student to face situations in which both types of competences, generic and specific, are integrated and tested.[13] Consequently, students' competencies grow according to a continuous process in which the context changes and new responses are required. Required competencies are also subject to change, and individuals' responses that were appropriate in the past might no longer be.

This way, in the specific context of the military, many academics such as Giulio Dohuet believe that anticipation is paramount when preparing for war:

> Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur. In this period of rapid transition from one form to another, those who daringly take to the new road first will enjoy the incalculable advantages of the new means of war over the old.[14]

As a result, the Spanish Army developed *Operational Environment 2035*, which systematizes those operational circumstances which encompass all imaginable factors that need to answer three main questions: who (those actors that constitute the threat), where (likely operating scenarios), and how (the way future conflicts will be).[15]

The current literature shows that modern armies are focused on future operational environments with a time horizon from 15 to 20 years. This is the case of the Spanish Armed Forces, the Spanish Army in particular, and the U.S. Army, which are used as case studies for this article and with the objective to gather the necessary categories for benchmarking. In this regard, the authors observed how this period allows them to transform their doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF).[16]

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[13] de Miguel Diaz, *Modalidades de Enseñanza centradas en el Desarrollo de Competencias*.

[14] Giulio Douhet, *Command of the Air*, trans. Dina Ferrari (Maxwell Air Force Base, AL: Air University Press, 2019), 27.

[15] *Entorno Operativo 2035*; and Guillermo Lopez-Rodriguez, "Factores culturales y procesos de cambio militar en el Ejército español" [Cultural Factors and Processes of Military Change in the Spanish Army], *Reis: Revista Espanola de Investigaciones Sociologicas*, no. 179 (July–September 2022): 59–78, https://doi.org/10.5477/cis/reis.179.59.

[16] *Department of Defense Dictionary of Military and Associated Terms*, Joint Publication 1-02 (Washington, DC: Joint Chiefs of Staff, 2014), 132.

Operational Environment 2035 states that changes are linked to revolutionary technological developments and this reality implies that life-long learning will be required to maintain our soldiers' readiness along their careers.[17]

Regarding the army element of the Spanish Armed Forces, in 2018, the Spanish Army issued *Future Land Operating Environment 2035*, which states that

> Their values and competences will be built upon an effective recruitment process, training, and preparation that will be updated throughout a career-long process. . . . We can state that soldiers must have not only a sound technological education but also a humanist one that allows them to develop understanding and empathy with cultural diversity, and resilient personality built upon solid human values that serve as guidelines to make decisions and endure sacrifice.[18]

These ideas are not exclusive of the Spanish Armed Forces but are shared by other North Atlantic Treaty Organization (NATO) allies. For example, the U.S. Army's "analysis of the Operational Environment shows these trends to be inexorable, bringing with them rapid and often uncomfortable changes that will force us to reevaluate many aspects of strategy, policy, and our very lives. . . . The first, and most important lesson is to understand and internalize the idea that we stand at a precipice of change, where our time-honored successes and the ideas, concepts, doctrine, equipment, training, and personnel that achieved them probably are insufficient to achieve successes in the near term, and certainly are, if not revised or re-assessed, insufficient in the mid to long-terms."[19]

Consequently, in the benchmarking designed by the authors, they observe how the U.S. Army found as a solution that a career-long, learner-centric approach to training and education is needed, which was articulated further by then U.S. Army Chief of Staff general Mark A. Milley: "Leadership success in this operating

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[17] *Entorno Operativo 2035*, 99.

18 *Future Land Operating Environment 2035* (Granada: Training and Doctrine Command, Spanish Army, 2018), 53, 59.

[19] *The Operational Environment, 2024–2034*, TRADOC Pamphlet 525-92 (Fort Eustis, VA: Training and Doctrine Command, Department of the Army, 2024), 24.

environment requires military, physical, and intellectual expertise that is continuously developed throughout a career."[20]

In the case of Spain, Spanish Army Chief of Staff General Amador Enseñat y Berea has a similar view, by which the Spanish Army personnel need to keep developing. This means that military at all ranks need to be the focus of education and training and that it lasts the length of their whole career.[21]

Young officers' education and training programs duration usually takes about five years in many countries, including the U.S. and the Spanish Army. These programs provide cadets with the professional generic and specific competencies required to become officers.

According to Bunk, "Professional knowledge and skills (specific competencies) become obsolete and even useless increasingly faster due to the rapid technical and economical evolution."[22] Academic literature proves that these competencies are easier to develop than generic competencies by means of education programs and that main goal is achieved when both competencies are integrated. Also, the key point for any education program for young officers is to correctly identify the appropriate professional competencies (both generic and specific) based on the future operational environment in which they will need to operate.

The point is that there is no general agreement about professional competencies, which has been developed by Horey and Fallesen, "leadership competency modeling is an inexact science and many frameworks present competencies that mix functions and characteristics, have structural inconsistencies, and may be confusing to potential end users." These authors demonstrate that each of the U.S. Services (Army, Navy, Air Force, Marine Corps, and Coast Guard) use similar but different frameworks, and they believe that "the nature and purpose of these organizations are similar enough that there should be great similarities in how leadership is defined, described and displayed within them."[23]

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[20] *The Operational Environment, 2024–2034*, 16; and *2019 Army Modernization Strategy: Investing in the Future* (Washington, DC: Department of the Army, 2019), 6.

[21] "The Chief of Staff of the Spanish Army Analyses the Evolution of the Armed Forces at Comillas," Universidan Pontificia Comillas, 25 February 2025.

[22] Bunk, "La transmisión de las competencias en la formación y perfeccionamiento profesionales de la RFA," 9.

[23] Horey and Fallesen, "Leadership Competencies," 1, 9.

Conversely, the European Union (EU) is also aware of the importance of correctly identifying the appropriate professional competencies for officers. With the aim of increasing interoperability among European armed forces, the EU launched the Sectoral Qualification Framework for the Military Officer Profession (SQF-MILOF). The goal of this tool is to support member states in developing and classifying military qualifications but also describing specific learning outcomes.[24]

It also seeks to provide member states with a cross-referencing tool for military qualifications so that those awarded in one member state can be compared with similar qualifications awarded in another member state.[25] However, even if it theoretically is a good tool, this initiative is still far from achieving these goals. Moreover, there is a need to achieve this kind of interoperability among countries, and within the Spanish Armed Forces there are also significant differences between how each service defines their officers' professional competencies.

Spanish Army Educational Model and Officers' Professional Competencies

In the Spanish Armed Forces, military education is regulated by Law 39/2007, by which officers' military education is composed of precommissioning education and professional military education.[26] Although within the army there are several corps and different modalities of access and educational programs, the majority of the Spanish Army officers belong to the *Cuerpo General de las Armas* (CGA), which integrates all combat branches (Spanish Infantry, Cavalry, Artillery, Engineers, Communications, and Army Aviation) and follows the *sin titulación* access, meaning that cadets enter the military academy at ages 18–20 without previous higher education studies.[27] Since the bulk of Spanish Army Officers follows this way to become officers, it is the focus in this article.

This training program is intended "to provide the students with the necessary capacities to achieve the required professional pro-

[24] *Sectoral Qualifications Framework for the Military Officer Profession, SQF-MILOF* (Luxembourg: Publications office of the EU, European Security and Defence College, 2020), https://data.europa.eu/doi/10.2855/994691.
[25] *Sectoral Qualifications Framework for the Military Officer Profession.*
[26] Military Career Law, Law 39/2007 (19 November 2007).
[27] *Sin titulación* refers to an accession modality without the requirement for applicants to have a university degree.

files for the competencies defined by the Spanish Army Chief of Staff."[28]

The curriculum analyzed here was in place between 2016 and 2024 and was intended to provide a wide scientific, technologic, and humanistic education through an engineering university degree while also providing military knowledge to provide cadets with all professional competencies and skills.[29]

According to *Orden DEF/286/2016*, this interdisciplinary education will produce commissioned officers who can perform assigned tasks based on their capacity to develop direction (command) and management activities in their branch. They must be ready to perform planning and control of military operations and other technical, logistical, administrative, and teaching tasks. Finally, they must be capable of performing leadership tasks with initiative, responsibility, and decision capacity.

According to Directiva 02/08, once commissioned, lieutenants are assigned as platoon leaders in units of their service branch for five years. After this period, an evaluation for promotion to the rank of captain is conducted, but it does not require any previous additional compulsory education program for company command qualification.[30]

According to Spanish Armed Forces regulations, *competence* is defined as "abilities to be acquired by the students, which must be demonstrated by means of knowledge, capacity and skills required for their use in the field of activity where they will perform their tasks, fundamentally those related to the first rank for officers. Competencies can be general and specific."[31] In addition, general competencies are those that are common for each corps of officers, with general competencies there are generic and specific competencies as defined in the educational environment. While specific competencies are associated to a particular service branch, precommissioned officer's education provides cadets with the re-

[28] *Orden DEF/1158/2010* [General guidelines for the curricula of general, specific, and technical military training] (Ministry of Defense, 7 May 2010).
[29] *Orden DEF/286/2016* [Approves the curriculum for the training of officers for integration into the General Corps of the Army through the forms of entry without prior qualification] (Ministry of Defense, 23 February 2016).
[30] Directiva 02/08, *Plan de Acción de Personal* (PAP) (2014).
[31] *Orden DEF/810/2015*, Article 5 [Approves the general guidelines for the preparation of training curricula for access to the different scales of officers of the Armed Forces corps] (Ministry of Defense, 4 May 2015).

quired competencies and specializations to be commissioned as officers. Current armed forces regulations tasks each service to identify what those competences are.[32]

However, the Spanish Army decided that, during precommissioning education, cadets must achieve general competencies common to all Spanish Army officers from lieutenant rank and up as well as specific competencies up to the rank of captain.[33]

In the case of the Spanish Air Force, required professional competencies—transversal, general, and specific—are defined exclusively to achieve the rank of lieutenant.[34] The Spanish Navy defines common general competencies for all officers' ranks and the specific competencies for lieutenants.[35]

Consequently, each Spanish service expects different levels of professional competence. If we focus on the Spanish Army, its precommissioning education program is, at least formally, more demanding from the point of view of professional competencies: captains' tasks and responsibilities are more demanding and complex than those of lieutenants' and this has an impact on education programs.

U.S. Army Educational Model and Officers' Professional Competencies

The U.S. Army defines *leader development* as the "deliberate, continuous, sequential, and progressive process that grows soldiers into competent and confidents leaders of character. Leaders are developed through the career-long synthesis of the training, education, and experiences."[36]

From the point of view of learning activities, the U.S. Army con-

[32] *Orden DEF/810/2015*, Articles 3 and 4.
[33] *Memoria Justificativa del currículo de formación militar, para el acceso a la escala de oficiales del Cuerpo General del Ejército de Tierra, ingreso sin titulación universitaria. Aplicación a partir del curso 2019–20* [Justifying Report of the military training curriculum, for access to the officer scale of the General Corps of the Army, admission without a university degree. Application from the 2019–20 academic year] (Granada: Mando de Adiestramiento y Doctrina, 2020), 4–5.
[34] *Escalas de Oficiales de los Cuerpos del Ejército del Aire. Perfil y Competencias* [Scales of Officers of the Air Force Corps. Profile and Competencies] (Madrid: Estado Mayor del Ejército del Aire, 2022), 9.
[35] *Orden DEF/288/2016* [Approves the curricula of officer training education for integration into the General Corps of the Navy and the Marine Corps through the forms of entry without prior qualification] (Ministry of Defense, 7 May 2016).
[36] *Army Training and Leader Development*, Army Regulation 350-1 (Washington, DC: Department of the Army, 2017), 7.

siders two main groups: initial military training (IMT) and professional military education (PME). While IMT is intended to provide foundational training required to become a soldier, PME provides leaders with appropriate education and is focused on rank or duty requirements.

At the officer level, the U.S. Officer Education System encompasses both IMT and PME and "provides progressive and sequential training throughout and officer's career."[37] Within this system and as part of IMT, there are two separate programs: Basic Officer Leaders Course Alpha (BOLC-A) and BOLC Bravo (BOLC-B). BOLC-A provides all required competencies to be qualified as an officer. BOLC-B is addressed to those who have qualified from BOLC-A and provides advanced competencies (infantry, artillery, etc.).

BOLC-A may be provided in different ways. For this article, the focus is the U.S. Military Academy of West Point (USMA) since it is the equivalent to the Spanish Academia General Militar (AGM): "The USMA provides a 4-year curriculum leading to a Bachelor of Science degree and commissioning as a second lieutenant"[38]

The USMA accomplishes its mission "to educate, train, and inspire the Corps of Cadets so that each graduate is a commissioned leader of character committed to the values of Duty, Honor, Country and prepared for a career of professional excellence and service to the Nation as an officer in the United States Army," which is inspired in the Army's strategy and vision 2028. The U.S. Army strategy describes a modern and dynamic battlefield, as described by General Milley, "Our graduates need to be ready to serve in any environment, and these operating environments are more multi-dimensional and evolving more rapidly than ever before." This has implications in the USMA: "we must continuously improve our leader development system to meet the increasing challenges our graduates inevitably face."[39]

The USMA accomplishes its mission applying the West Point Leader Development System (WPLDS), which is "its 47-month integrated system of individual development and leadership devel-

[37] "Army Education and Training System Overview," Army COOL, accessed 5 December 2025.
[38] *Army Training and Leader Development*, 72.
[39] *USMA Strategy 2019* (West Point, NY: U.S. Military Academy, 2019), 2; and *2019 Army Modernization Strategy*, 6–7.

opment, all within a culture of character growth." It is composed of four programs: academic, military, physical, and character. The four of them are focused on facilitating cadets to achieve generic competences.[40]

After graduation, the new officers attend BOLC-B, where they receive "common core and technical training (specialized skills, doctrine, tactics, and techniques) associated with their specific branch specialties." BOLC-B for most of the branches lasts 19 weeks in which the new officers get branch related specific competencies.[41]

BOLC-B aims to produce adaptive officers, steeped in the profession of arms and who are technically/tactically competent, confident, and capable of leading in unified land operations after their arrival at their first unit of assignment. It consists of common military skills and branch-specific qualification courses that provide newly commissioned officers an opportunity to develop their leadership, tactical, and technical tasks and supporting skills and knowledge required to lead in their future unit of assignment.

After a minimum of two years of duty as a first lieutenant, officers may be promoted to the rank of captain and attend the Captains Career Course (CCC), which normally happens between the fourth and seventh years of service.[42] The CCC is focused on qualifying first lieutenants to command at the company-unit level and provides advanced branch-specific training. CCC "emphasizes the development of leader competences while integrating recent operational experiences of the students with quality institutional training."[43]

The CCC occurs at a pivotal time of an officer's career. Although it is not considered as a transitional period for an officer between tactical, operational, and strategic art, it is still a critical period.[44]

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[40] *Developing Leaders of Character: The West Point Leader Development System* (West Point, NY: U.S. Military Academy, 2018), 5.
[41] *Army Training and Leader Development*, 73.
[42] *Officer Promotions*, Army Regulation 600-8-29 (Washington, DC: Department of the Army, 2020), 14; and Troy Messer, *Captains Career Course: Leveraging Talented Officers towards the Army Profession* (Carlisle Barracks, PA: U.S. Army War College, 2011), 7.
[43] *Army Training and Leader Development*, 74.
[44] Col William M. Raymond Jr. et al., *Sepcial Commission from the US Army Combined Arms Center: Report of Findings and Recommendations, 2010 US Army Captains Career Course Study* (White Sands Missile Range, NM: Army TRADOC Analysis Center, 2010), 3.

According to Army regulation,

> The CCC provides O–3s with the tactical, technical and leader knowledge and skills needed to lead company-size units and serve on battalion and brigade staffs. It facilitates life-long learning through an emphasis on self-development. The curriculum includes common core subjects, branch-specific tactical and technical instruction, and branch-immaterial staff officer training.[45]

The U.S. Army considers it important to update this course so that it responds to demands dictated by war and a rapidly changing organizational and operational environment.[46] It develops leadership through a combination of institutional training and recent operational experience of the students. Course attendees have previously completed their first tour as officers and performed as a platoon leader, company executive officer, or junior staff officer at battalion level. According to Colonel William Raymond, the CCC should maintain high quality Small Group Leaders selecting the best trainers and update curriculum to be current, relevant, and rigorous.[47] The result of this, along with "an academic environment that allows for open dialog, reflection, intellectual challenges and exchanges of diverse operational experiences and perspectives" is an advanced educational outcome.[48]

The CCC has a history of revisions to be adapted to the new operational requirements and resources since the U.S. Army has consistently found that captains need more education, rather than an emphasis on training, and that education requires academic rigor and direct peer contact. It also recognizes the importance of the "socialization process," where officers share experiences with their contemporaries in an academic environment. This process leads to reflection on "past experiences" to find perspective so that the learning process occurs by exchange of ideas and experiences.[49]

Since April 2023, the U.S. Army has implemented a modernized version of the CCC. According to this document, the new CCC

[45] *Army Training and Leader Development*, 74.
[46] Messer, *Captains Career Course*, 7.
[47] Raymond et al., *Sepcial Commission from the US Army Combined Arms Center.*
[48] Messer, *Captains Career Course*, 19.
[49] Raymond et al., *Sepcial Commission from the US Army Combined Arms Center*, 8, 11.

has the following learning areas: army profession and leadership, branch skills, and warfighting and command. The duration of the CCC used to be 22 weeks and was composed of an 8-week common core section and a period of 13 weeks dedicated to particular branch's tactics and technics. The modernized CCC includes a new distributed learning phase with 75 hours (the rest of the course is F2F), which is part of the common core that lasts 147.5 hours (instead of the previous 240 hours). This change allows an extension of branch education up to 727.5 hours (instead of the previous 560 hours).[50]

Methodology

To answer the research question, the authors divided the process in two phases. For the first phase, they benefited from the information from participatory observation to state the main elements of the discussion. In the second phase, they built a qualitative process of interviews, focusing on the six Spanish Army branch academies' directors (colonels), the AGM director (general), and the Defense University Center (CUD) director and deputy director.[51]

To conduct the interviews, the authors arranged meetings and traveled to each of the academies. These meetings were executed in person with each of the directors and consisted of an introduction to the research subject formulating the research question and project and explaining the main differences between the U.S. Army model and the Spanish Army model. Each of the meetings lasted between one and a half and two hours. The meeting with the Engineers Academy (Hoyo de Manzanares, Madrid) encompassed engineers and signal academic programs, and the director (Engineer Branch) was accompanied by the deputy director (Signal Branch).

The authors conducted semistructured interviews, because they posed questions that could allow for debate, especially when required to correctly interpret the ideas addressed by each director. Consequently, the meetings were conducted in an informal and proactive way, allowing the authors to record the most interesting opinions, essential points, and conclusions.[52]

[50] U.S. Army Combined Arms Center, "CCC Modernization: Frequently Asked Questions," Army Unviersity, 30 August 2022.
[51] The Defense University Center supports AGM's mission and is responsible for part of the university degree.
[52] The comments that follow are shared by permission of the directors.

Comparative Analysis

Both, USMA and AGM's educational models concur when comparing the expected professional competencies to be achieved: personnel attributes and capacity to perform tasks (knowledge, skills, motivation, values and personality) as army officers. At both institutions, cadets pursue generic and specific competencies to become army officers. The former ones are consolidated along the duration of their respective curriculum while being integrated with military specific competencies.

That is why, in the case of the USMA, its four programs (academic, military, physical, and character) are run simultaneously while, in the AGM, its curriculum (which used to integrate an engineering degree and other courses in addition to military training) is run with the AGM leadership plan complementing it.[53] Those generic competencies require time and effort to be achieved (four to five years); however, integrated with the specific ones, they accompany the officer along their entire career.

Modern armies assume that the future operational environment is uncertain and rapidly changing. Consequently, it will be required that its members adopt career-long education and training. This fact mainly impacts the specific competencies (e.g., military tactics and technics) that, once achieved, will require educational updates more frequently after officers are commissioned; contents learned today rapidly may become obsolete.

One of the most visible differences between both models is that the U.S. Army considers that specific competencies at company-command level are necessarily acquired once they get operational experience as lieutenants and by means of the CCC just prior to command this unit level.

Since promotion to captain occurs in the Spanish Army several years after being commissioned, it might be convenient to consider a two-part change in the education model: first, shortening the academy curriculum to achieve branch competencies at platoon-leader level prior to commission. Any missing components should then be provided to them in a second step by means of a

[53] Enrique Gaitán Monje and Andres de Castro García, "En búsqueda de la mejor formación de oficiales: academia militar de España vs. West Point" [In Search of the Best Officer Training: Spanish Military Academy vs. West Point], *Revista Científica: General José María Córdova* 21, no. 44 (2023): 927–48, https://doi.org/10.21830/19006586.1124.

rigorous academic program once they become experienced officers and prior to their company command.

But there is another factor that is paramount in this issue: the considerable increase of professional complexity between platoon leader and company commander responsibilities. As a result, this article's research question focuses on whether the Spanish Army should redefine the level of professional competencies to be achieved by its cadets to become officers and, in particular, the level of those that are related to the specific branch: Should that level continue to be up to company command or should cadets obtain the required specific professional competencies to command platoon-level units?

In the latter case, the Spanish Army would need to convene lieutenants, prior to their promotion to the rank of captain, to attend a currently nonexisting educational program to facilitate the acquisition of the specific competencies required at company level.

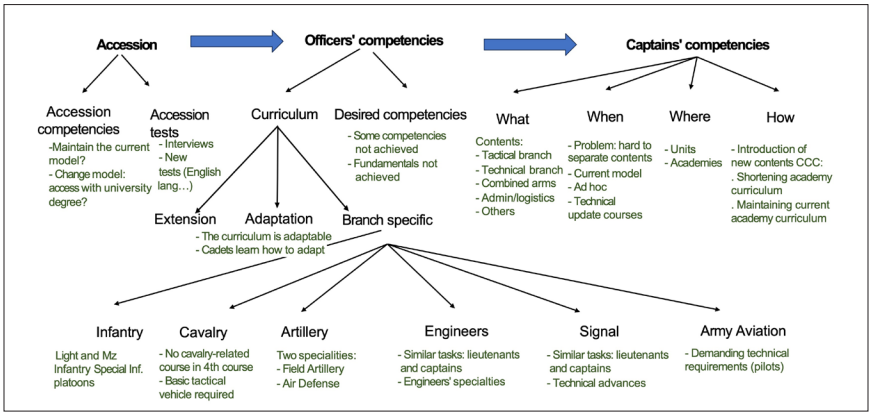
The answer to this question is important for two main reasons. First, as stated above, the Spanish Army precommissioning officers' curriculum is very dense due to the demanding professional competencies to be achieved by cadets; reducing the level of specific competencies would alleviate the existing high work load cadets have. Second, there is no educational program to prepare or complete the preparation of lieutenants to command a company (which happens about five years after being commissioned) to update them immediately prior to command a company.

To answer the research question, the authors built a qualitative process of interviews with the six Spanish Army branch academies' directors. These interviews were executed in person with each of the directors and consisted of a brief introduction about the research question and project. Once they conducted the interviews with the Spanish Army academies' directors, they processed this information and built a category tree.

Accession

The author's observed that the current AGM's accession process for cadets deeply impacts its educational model from the point of view of the required admission initial competencies: Should the Spanish model maintain the current accession model, or should it shift to one in which a university degree is already an access requirement?

Figure 1. Spanish Army academy director's category tree



Source: courtesy of the authors, adapted by MCUP.

There could also be other requirements that would need to be revised to facilitate cadets' work load reduction: for instance, cadets could be required to have a more robust English language proficiency. Another example is to introduce interviews that might serve as a filter of personality attributes, motivation, behaviors, or some desired skills.

Conversely, should the university degree that is currently studied as part of the curriculum be diversified (i.e., introducing additional degrees than an engineering degree)? If affirmative, the variety of cadets would also change significantly, widening the spectrum of their possible backgrounds and likely raising the average intellectual level of the group of admitted cadets.

These ideas were mentioned by the infantry director, who said that it might be possible to proceed with an improved AGM accession process so that certain requirements be reinforced prior to getting to the AGM (e.g., English language proficiency, personal interviews to detect aspects of personality with more affinity to the profession of arms, and others). The Artillery Academy director stated that the curriculum is too dense in artillery since it has two separate specialties: field artillery and air defense. For this reason, the director consider that perhaps the best model would be a drastically different educational model in which a university degree would be one of the requirements to be admitted; consequently, the curriculum would be quite different.

Officers' Competencies

As for officers' competencies, during the interviews there was general agreement about the perception that the current educational model is too dense, and cadets face an immense working load. It was generally admitted that there are competencies that could not be achieved in a timely manner by cadets during their educational process.

The interview with the CUD director and deputy director highlighted the main problem of the current educational model in that the curriculum for officers is rather dense: "despite this fact, the current relative success in the annual number of commissioned officers can be explained due to a very demanding selection and access process that still provides the AGM with a highly qualified cadet. By and large, the total of 333 European Credit Transfer System (ECTS) together with the 52 military training weeks (equivalent to more than one academic year) is dense and demanding to be conducted in five years."

This is one of the main reasons why the existing curriculum is under reform. This reform will facilitate curriculum contents updates. From the point of view of the CUD deputy director, "the military profession is unique because it is one of the most regulated of the existing professions and more prestige should be recognized by the civil society; for example, linking some steps in the officers' trajectory with the obtention of university titles (master or doctorate). However, the overabundance of current curriculum contents implies such a demanding working load for cadets that the mentioned linkage, at least at cadet level would be very difficult to reach." For example, within the current model it might be possible for cadets to earn a university degree but also a master's degree. However, cadets have found it very difficult to achieve enough intellectual maturity to complete a master's research project, which is amplified by the cadets' high workload and lack of operational experience. Consequently, it would make more sense for officers to get a master's degree in a more advanced moment of their career.

The Infantry Academy director recognized that some curricula (e.g., technical courses) should not be taught at the currently level in the Infantry Academy: "Perhaps, the part of the curriculum that is responsibility of the Infantry Academy could be more (or better) focused on those contents closer related to platoon leader

responsibilities, while it seems that combined arms combat is neither sufficiently trained nor appropriately implemented according to infantry training needs."

The Army Aviation Academy director stated that this branch has a differential element with respect to the other branches: "All Army Aviation officers are required to obtain their flight qualification, which means an additional period of 15 months (6 months more than other branches). This is strictly necessary and, compared to other branches requirements, it implies a limitation of time for contents related to general competencies."

In their view, the Spanish Army officer educational model should be better focused on the fundamentals of the military profession. It should include the minimum military technics required to learn those fundamentals and how to think and adapt to the operational environment changes. A four-to-five-year academic program should make it unnecessary to update officers in military academies after four or five years of being commissioned: "Lieutenants must have acquired a deep capacity of adaptation and be ready to apply military fundamentals to adapt tactics to future wars. Cadets should not be receiving too many details about current tactics, technics, and procedures but the necessary fundamentals to identify what changes are to be implemented; in order words, they need to learn how to think or how to adapt tactics, technics, and procedures according to tendencies changes."

The Cavalry Academy director also concurred that the curriculum is too dense and, in the case of branches such as cavalry, the university degree lacks any cavalry-specific coursework (in the fourth academic year) as it is the case of other branches such as artillery or signal. That means that cadets have a very demanding working load in this academy.

The changing operational environment proves that much of the curriculum becomes obsolete very rapidly. That is why one of the key features of the ongoing curriculum reform is to increase its adaptation capacity. The AGM director highlighted that, in view of the characteristics and culture of the Spanish Army, the current Spanish Army officer educational model, far from being bad, has one important strength: "Its capacity of adaptation, which is a key for both, the Spanish Army and the AGM. This capacity is provided by the current educational model due to different facts as,

for example, the current rotation of military teachers at the AGM, coming from all Army units; it strongly facilitates the introduction of the brand-new tactics, techniques, and procedures in the AGM in an almost casual way."

The AGM director stressed the idea that, by means of the current revision of the existing precommissioning officers' curriculum, the Spanish Army is trying to reinforce its capacity of adaptation: "the educational model must be ready to be rapidly updated by the Army." This is how this model is being adapted to the changing future operational environment despite real-life circumstances in which resources allocated to military education are limited: "The truth is that there might be several additional reforms that would improve our educational model; for example, a wider diversification of the university degrees studied in the AGM would probably enrich the quality of our officers as a group; a redefined set of tests for cadets' accession would also contribute to it. But again, the existing shortage of manning and other resources for implementing this kind of reforms constitutes a serious obstacle."

The CUD deputy director stated that "the virtue of the ongoing revision of the existing precommissioning officer's curriculum is that professional competencies or learning results to be achieved remain its cornerstone. Learning results constitute the reference for all curriculum contents; this way, contents will be easier to be updated or changed when needed." However, with regard to the curriculum, there are inevitably different perceptions of the path forward depending on the branch academy because a significant part of the curriculum is branch related.

From the point of view of the Infantry Academy director, there is an important fact related to the existence of several types of infantry platoons operating at the battalion level. This implies that cadets need to receive a wider variety of courses related to two echelons above platoon, up to battalion level. This fact complicates the information cadets need to learn.

The Cavalry Academy director stated that cavalry tactical and technical courses are a function of the existing training materials: "This academy should be provided with a basic tactical vehicle with balanced capacities to perform cavalry maneuvers in a way that cadets learn the fundamentals. Afterward, once assigned to their units as lieutenants, they would need to be updated with courses

related to the existing tactical vehicle in those units." This way, there is a significant part of the curriculum that might be shortened in a similar way to the Army Aviation Academy case.

The Artillery Academy director elaborated on the fact that "the available time for Artillery cadets to achieve their professional competencies is too short considering that, in the Spanish Army, artillery is currently covering what in other armies are two different branches: Field Artillery and Air Defense." This may be the most important obstacle to the Artillery Academy's mission of preparing officers. The unification under a single branch (artillery) of field artillery and air defense in the Spanish Army would facilitate personnel management but also complicates officers' preparation and talent management. This has an important impact on the Artillery Academy.

Regarding professional competencies, in the artillery director's opinion, it would be very difficult to separate artillery professional competencies at the lieutenant level from those at the captain level from the tactical and technical point of view. They consider that "right now, the artillery part of the curriculum is appropriate since each course is scrutinized in relation with its probable usefulness in lieutenant assignments; that is to say, courses are very well connected with the desired professional competencies."

During the interview with the Engineering Academy director, they first highlighted that this academy takes care of two different branches—engineering and signal—each with its own peculiarities, although both are separate branches compared with field artillery and air defense in artillery.

In the case of Signal Branch, its technological profile is crucial and requires continuous update: "For the Army Signal Branch, it is very difficult, from the tactical and technical point of view, to separate professional competencies at company level from platoon level, since captains and lieutenants perform a very similar role: both ranks act as signal advisors to their supported units and have similar command responsibilities when detached to provide signal support; that means that there is little qualitative difference between both ranks. However, from other points of view such as administrative, logistics and others, there are considerable differences in responsibility also for engineers."

In the case of engineering officers, there are similarities with

respect to the Signal Branch from the tactical and technical points of view since engineer officers have a similar role as advisors to their supported unit and in command of a unit detached to provide engineer support.

In the case of Army Aviation, professional competencies at lieutenant and captain levels differ similarly as in infantry and, in the opinion of the Army Aviation Academy director, "an appropriate educational model would make it unnecessary to update lieutenants to command a company."

Captain Competencies

Most of the interviewed directors admitted that some specific competencies to perform as a captain are not always achieved by cadets when commissioned as officers. The AGM director recognized that it is difficult for cadets to achieve captain-level professional competencies during their five-year educational program. However, courses related to functions and responsibilities at company level are a requirement for lieutenants to correctly perform their role as platoon leaders. They also underlined the importance of the AGM leadership plan: "it provides cadets with the necessary opportunities to practice and achieve the expected professional competencies as officers. The AGM leadership plan is resulting very effective for it."

The Infantry Academy director stated that "some of the cadets are not initiating their fifth course in the Infantry Academy, having previously consolidated the expected competencies in a proper way to face it and, consequently, it becomes a handicap for cadets which are under a lot of pressure during the period of time that cadets spend in this academy, also considering that both light and mechanized infantry are to be covered."

Both the Infantry and Army Aviation Academy directors provided another important focal point in that the precommissioning officers curriculum is not appropriately covering some aspects of captain-level responsibility as, for example, is the case in administrative, logistic, or disciplinary areas; however, it is important to provide lieutenants with competencies at captain level since they frequently need to substitute them as company commanders. For the Infantry Academy director, "All in all, a reorganization of the current precommissioning officer's curriculum should not imply re-

ducing the working load to commission our cadets as officers; instead, a better redefinition of the contents should be conducted to better focus on professional competences at platoon level."

The Cavalry Academy director stated that, "even if evaluation reports applied on lieutenants affirm that these officers have appropriately achieved the expected competencies, they also present some deficiencies; most of them are located in admin issues and in combined arms training as well." These deficiencies were also identified by the Army Aviation Academy director.

The AGM director stated that, after being commissioned as lieutenants, professional competences at company level are usually completed by observation and operational experience obtained during their assignments as platoon leaders. "Spanish Army lieutenants really achieve captain professional competencies, observing and learning from good captains assigned in their units (assuming a kind of spontaneous mentorship role for lieutenants). These captains become the reference that lieutenants need for achieving those competencies: the way the Spanish Army 'makes captains' is by something so natural as the daily contact and interaction between lieutenants and those good and experienced captains." Affirming this statement, the Infantry Academy director said that "there should be a course to support captains prior to command a company unit."

However, the Army Aviation Academy director underlined the fact that these issues must be addressed in a different way than the need to technologically update officers: "technological requirements are not related to lieutenant or captain competency levels."

For the Engineers Academy director, there is an important peculiarity: engineers must cover several different specialties that all lieutenants must know since they can be assigned to any engineers specialty. Further, "For both, engineers and signal branches, the speed of technical changes obliges to periodically provide with additional educational programs or courses for manning update. Additionally in the case of engineers, by means of professional military education courses, officers achieve further competencies required by some engineer specializations."

From the point of view of the Artillery Academy director, there are other relevant aspects related to company command compe-

tencies (e.g., administrative, logistic, legal, and others) that right now are not sufficiently covered by the precommissioning officer's curriculum; it would be necessary to articulate a course to prepare lieutenants to command a company. "The problem may appear in its implementation: sometimes this kind of activities is not successful due to different reasons. For instance, this course would imply to separate officers more time from their units. Or the fact that the current shortage of manning in the military academies constitutes a serious obstacle to implement new educational courses and others."

For the Army Aviation Academy director, their lack of experience is what prevents lieutenants to achieve professional competencies as captains. Lieutenants are to complete their professional competencies through their units' training programs; and updates needed to properly command a company would be achieved through these training programs as well. "Consequently, any curriculum should not include too many technical courses since they rapidly become obsolete. They should be more focused in other type of courses such as humanistic, which provide competencies that are valid in the long term. If those training programs are correctly implemented, it would be unnecessary to provide lieutenants with any educational program to achieve captain competencies, since the point is just to get the experience required to command a company."

However, for the Cavalry Academy director, lieutenants would consolidate required professional competencies to command a company if they were prepared by means of a specific course aiming for that purpose. The CUD deputy director also affirmed that "although lieutenants are currently completing captain level competencies in their units, it seems ideal to support this important process by means of a regulated academic program at a later stage in their career, not during their precommissioning officers' curriculum."

Conclusions

There are two important points to be considered when designing an education and training program for cadets. The first is very evident: time and resources are limited. It implies that these programs need to be very well focused on the numerous, demanding offi-

cers' professional competencies to be achieved: knowledge, skills, motivation, values, and personality.

The second is that these educational programs serve as the basis of an officer's career-long educational process; courses to achieve specific competencies (knowledge and skills) will probably become obsolete in a relative short time along their career spectrum. Consequently, officers will need to update their knowledge and skills frequently.

As described above, the Spanish Army precommissioning officers' educational model is very complete since it is designed so that cadets achieve not only the required general competencies to become army officers, but also those specific competencies (branch related) that potentially enable them to perform as captains. Consequently, once commissioned, Spanish Army lieutenants are prepared to command units at platoon and, theoretically, at company level as well; however, this educational program is very demanding for cadets due to the density of its coursework.

This model clearly contrasts with the U.S. Army Military Academy that, not including branch-related specific competencies, considers exclusively the rest of officers' professional competencies. Of course, U.S. Army officers are educated and trained in branch-related specific competencies, but this happens once they are commissioned as first lieutenants by means of the BOLC-B. This course is exclusively focused on a second lieutenants' level of professional competencies and not the captains' level. As such, the U.S. Army model has a significant advantage: it mainly provides cadets with long-lasting general competencies, which do not change much along a military career, while it leaves branch-related specific competencies to be achieved chronologically closer to the professional moment they are required.

Can the Spanish Army model be improved?

First, it might be convenient to reduce the existing number of curriculum courses, those that are not strictly necessary, to facilitate the consolidation of the prevailing ones. For instance, this can be attained by modifying current admission initial competencies. For example, English language proficiency standards to access the AGM might be raised to facilitate achieving English language officers' requirements. It might also be important to introduce a set of interviews among access requirements to work as a filter of per-

sonality to reduce the number of cadets advancing without appropriate motivation, values, or personality.

In general, the authors suggest that military educators learn from the past, including the academic curriculum courses (2010–24). The fact that there was only one university degree (industrial engineering), which is mainly technical, constituted another difficulty. Its courses were demanding and, although some of its material was branch related, in some of them (mainly infantry and cavalry) this connection is less firm that in the others. A diversification of university degrees and or the creation of new ones (tailored to each branch) might mitigate this problem. This should be considered in future research.

Furthermore, courses particularly oriented to achieve specific competencies should also be reconsidered. In some cases, for instance like infantry, there are some courses that delve too deeply. In others, like cavalry, improving the existing training materials would facilitate the educational process. In the case of artillery, it is quite demanding to prepare officers in both field artillery and air defense, which in many other armies are separate branches.

But another important consideration that should be analyzed is the implications of leaving all captain-level specific competencies to be achieved at a later moment in the officer career. Theoretically, by doing so, the number of academic curriculum courses could be reduced. However, it seems that this is not easily accomplished in some of the army branches, mainly in engineers, communications, and artillery.

How can this change be implemented? The U.S. Army model provides an interesting reference point. By means of the CCC (about six months long), U.S. Army lieutenants achieve captains'-level competencies. This course of action presents at least four important advantages: officers have previously acquired an important professional experience (much more solid than cadets' prior to being commissioned). This professional experience is also shared by all lieutenants during the CCC and they learn from each another. As cadets, this is not possible due to the lack of experience. Second, all courses that captains need are more up to date than those offered several years before during the academy curriculum. Also, combined arms courses and other generic courses such as admin-

istration and logistics are easier to be assimilated by experienced lieutenants than by cadets.

One inconvenient fact that this model highlights from the institutional point of view is the need to create a new educational activity and to require all lieutenants to pass it, with the consequent impact for army units. However, if captain-level competencies and related courses are eliminated from the existing academic curriculum, it could be possible to reduce its duration. This is also the case of the U.S. Army model: U.S. Army cadets need four-and-a-half years to become a second lieutenant. The duration of this new course (similar to the U.S. Army CCC) could be accompanied by an equivalent reduction of the academic curriculum.

However, there is a significant increase in responsibilities and competencies when assuming a company command compared to commanding a platoon. Considering the difficulties that the current operational environment presents to company commanders and the complexity that commanding a company implies, promotion to this rank should be accompanied by an institutional educational activity. Leaving it exclusively to operational experience by lieutenants in their units, as it is currently the case in the Spanish Army, is also acceptable but the risk of not achieving the required competencies by all lieutenants may be significantly higher.

As a result of this research, when educating and training cadets to become officers, more focus should be on officers' general competencies to achieve better results. Certainly, the focus should be on fundamentals and principles rather than on tactics, technics, and procedures that vary over time. For this reason, most branch-related competencies and courses should be delayed and minimized in the academic curriculum as much as possible.

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ONLINE MINDFULNESS-BASED INTERVENTIONS

Korean Military Students' Experiential Perspectives

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Abstract: Mindfulness-based interventions (MBIs) have been applied across various fields, notably in education. The COVID-19 pandemic accelerated the transition of their application to online formats. While this type of delivery may be especially valuable in military settings given their unique constraints, research in Korea has been limited. The current study describes the first online MBI offered as a semester-credit course for undergraduate students at a civilian public university who are taking online classes while serving in the Korean military and explores participant experiences with and outcomes of the MBI. During a 16 week period, 16 students viewed weekly videos and, during the final 10 weeks, completed meditation journals three times per week. The curriculum included body scan, relaxation, breath awareness, selective attention, self-compassion, and mindful daily living, delivered through guided meditations, recorded sessions, creative activities, and instructor feedback. Nine students gave consent to be participants in the study. A data-driven, thematic analysis of the nine students' journals examined immediate post-meditation experiences, bodily sensations, breath awareness, and integration through journaling. Two primary themes emerged: personal process and outcomes ex-

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perienced. The first theme highlights a common personal process through which students developed a meaningful relationship with their introduction to mindfulness practices, including subthemes of comfort level, normalization, and intent to continue. The second theme identified outcome subthemes related to physiological benefits, physical self-awareness, and mental self-awareness. Findings suggest online MBIs can support psychological and physical well-being in high-stress military environments. The study highlights the potential of such programs to promote resilience and health in these unique environments and the need for further research in military populations.

Keywords: mindfulness, mindfulness-based interventions, MBI, resilience, military wellness, military students, professional military education

Introduction[1]

South Korea maintains one of the few remaining conscription systems among modern democracies, mandating nearly all able-bodied men in their early 20s to serve in the military for approximately 18–21 months. Unlike voluntary service-based systems, the Korean military is composed largely of conscripts who are often university students temporarily suspended from civilian life and education. This context shapes a unique psychological landscape: young men at a formative age are abruptly immersed in a hierarchical, regimented environment characterized by limited autonomy, constrained communication with the outside world, and constant exposure to geopolitical tension. The latter is especially pronounced given South Korea's proximity to North Korea and the ongoing state of armistice, rather than peace, between the two nations. These factors, compounded by cultural elements such as traditional Confucian hierarchies and the internalized social pressures of masculinity, result in a military experience marked by multifaceted psychological stressors.

Despite the high-stress nature of military service, psychological support within the Korean military has historically centered on reactive interventions, such as counseling following incidents

[1] The authors have no relevant financial or nonfinancial interests to disclose. No funding was received for conducting this study. Due to the nature of the participants of this study as active military personnel, the data are unavailable for public review. Participant responses are provided by permission.

or administrative referrals due to noticeable distress. While recent years have seen an increase in preventative efforts, including the assignment of accident prevention counselors and unit-level emotional management officers, comprehensive and proactive mental health strategies remain underutilized. One promising strategy is the application of mindfulness-based interventions (MBIs), which have been empirically shown to improve psychological symptoms, reduce anxiety, improve sleep quality, and improve overall well-being in civilian populations.[2] In educational settings, MBIs have been found to improve students' self-regulation, persistence, stress levels, depression and anxiety, sleep quality, and resilience.[3]

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[2] Simon B. Goldberg et al., "Efficacy and Acceptability of Mindfulness-based Interventions for Military Veterans: A Systematic Review and Meta-analysis," *Journal of Psychosomatic Research* 138 (November 2020): 110232, https://doi.org/10.1016/j.jpsychores.2020.110232; Hailiang Zhang et al., "Mindfulness-based Intervention for Hypertension Patients with Depression and/or Anxiety in the Community: A Randomized Controlled Trial," *Trials* 25, no. 1 (May 2024): 299, https://doi.org/10.1186/s13063-024-08139-0; Ascensión Fumero et al., "The Effectiveness of Mindfulness-based Interventions on Anxiety Disorders: A Systematic Meta-review," *European Journal of Investigation in Health, Psychology, and Education* 10, no. 3 (July 2020): 704–19, https://doi.org/10.3390/ejihpe10030052; Elizabeth A. Hoge et al., "Mindfulness-based Stress Reduction vs Escitalopram for the Treatment of Adults with Anxiety Disorders: A Randomized Clinical Trial," *JAMA Psychiatry* 80, no. 1 (2023): 13–21, https://doi.org/10.1001/jamapsychiatry.2022.3679; Xinyi Zuo et al., "The Efficacy of Mindfulness-based Interventions on Mental Health among University Students: A Systematic Review and Meta-analysis," *Frontiers in Public Health* 11 (November 2023): 1259250, https://doi.org/10.3389/fpubh.2023.1259250; Ana María González-Martín et al., "Effects of Mindfulness-based Cognitive Therapy on Older Adults with Sleep Disorders: A Systematic Review and Meta-analysis," *Frontiers in Public Health* 11 (December 2023): 1242868, https://doi.org/10.3389/fpubh.2023.1242868; and Flavia Marino et al., "Mindfulness-Based Interventions for Physical and Psychological Wellbeing in Cardiovascular Diseases: A Systematic Review and Meta-Analysis," *Brain Sciences* 11, no. 6 (May 2021): 727, https://doi.org/10.3390/brainsci11060727.

[3] Lijuan Fan and Feng Cui, "Mindfulness, Self-efficacy, and Self-regulation as Predictors of Psychological Well-being in EFL Learners," *Frontiers in Psychology* 15 (March 2024): 1332002, https://doi.org/10.3389/fpsyg.2024.1332002; Daniel R. Evans, Ruth A. Baer, and Suzanne C. Segerstrom, "The Effects of Mindfulness and Self-consciousness on Persistence.," *Personality and Individual Differences* 47, no. 4 (September 2009): 379–82, https://doi.org/10.1016/j.paid.2009.03.026; Ana María González-Martín et al., "Mindfulness to Improve the Mental Health of University Students: A Systematic Review and Meta-analysis," *Frontiers in Public Health* 11 (December 2023): 1284632, https://doi.org/10.3389/fpubh.2023.1284632; Zuo et al., "The Efficacy of Mindfulness-based Interventions on Mental Health Among University Students," 1259250; Jennifer N. Baumgartner and Tamera R. Schneider, "A Randomized Controlled Trial of Mindfulness-based Stress Reduction on Academic Resilience and Performance in College Students." *Journal of American College Health* 71, no. 6 (August–September 2023): 1916–25, https://doi.org/10.1080/07448481.2021.1950728; Julieta Galante et al., "Effectiveness of Providing University Students with a Mindfulness-based Intervention to Increase Resilience to Stress: 1-year Follow-up of a Pragmatic Randomised Controlled Trial," *Journal of Epidemiology and Community Health* 75, no. 2 (February 2021): 151–60, http://dx.doi.org/10.1136/jech-2020-214390; and Luisa Charlotte Lampe and Brigitte Müller-Hilke, "Mindfulness-based Intervention Helps Preclinical Medical Students to Contain Stress, Maintain Mindfulness and Improve Academic Success," *BMC Medical Education* 21, no. 1 (March 2021): 145, https://doi.org/10.1186/s12909-021-02578-y.

However, despite this growing evidence, the integration of MBIs into military life, particularly within South Korea, remains limited and underresearched.

Previous studies have shown that combined online and in-person MBI classes positively impact college undergraduate students' (mean age 21.1 years, standard deviation 1.7 years) self-compassion and creativity, revealed neural correlates between mindfulness and creative cognition through electroencephalography (EEG) data, and qualitatively demonstrated that mindfulness interventions for undergraduate students in science, technology, engineering, and mathematics (STEM) education enhance learning experiences and emotional resilience.[4] Building on these foundations, the current study explores the potential benefits of MBIs within a high-performance academic environment.

The COVID-19 pandemic, while disruptive, offered an unexpected opportunity to reimagine the delivery of MBIs. With in-person gatherings restricted, the expansion of online mindfulness programs created new potential to reach populations previously inaccessible due to institutional or environmental barriers. In military settings, where interpersonal contact with civilians is tightly controlled, online MBIs emerged as a plausible and scalable solution. However, empirical research evaluating their implementation and outcomes in such environments remains virtually nonexistent in the Korean context. Addressing this gap, the present study implemented structured MBI sessions with undergraduate students at a university in Korea who were in the process of fulfilling their mandatory military service and were taking the online Korean-language mindfulness course during their service, applying validated

[4] Young Min Jung and Eunmi Kim, "A Comparison of Online and In-person MBI Classes on Self-compassion and Creativity," in David Guralnick, Michael A. Auer, and Antonella Poce, eds., *Creative Approaches to Technology-Enhanced Learning for the Workplace and Higher Education: Proceedings in "The Learning Ideas Conference"* (Cham, Switzerland: Springer Nature Switzerland, 2023), 247–62, https://doi.org/10.1007/978-3-031-41637-8_20; Sang Seong Kim, Sunhwa Hwang, and Eunmi Kim, "Neural Correlates of Creative Drawing: Relationship Between EEG Output and a Domain-specific Creativity Scale," in David Guralnick, Michael A. Auer, and Antonella Poce, eds., *Innovative Approaches to Technology-Enhanced Learning for the Workplace and Higher Education: Proceedings of "The Learning Ideas Conference"* (Cham, Switzerland: Springer International Publishing, 2022), 172–80, https://doi.org/10.1007/978-3-031-21569-8_16; and Eunmi Kim et al., "Mindfulness Intervention Courses in STEM Education: A Qualitative Assessment," in David Guralnick, Michael A. Auer, and Antonella Poce, eds., *Innovations in Learning and Technology for the Workplace and Higher Education: The Learning Ideas Conference* (Cham, Switzerland: Springer International Publishing, 2021), 160–69, https://doi.org/10.1007/978-3-030-90677-1_16.

methodologies from prior research to comprehensively evaluate their effects.[5]

K.W. Park et al. provide a strategic analysis and proposal for implementing MBIs within the Korean military.[6] They review the current state of mental health initiatives in the Republic of Korea (ROK) Armed Forces and examine MBI programs conducted in the United States and United Kingdom militaries. Through a SWOT (strength, weakness, opportunity, and threat) analysis tailored to the Korean military context, they identify appropriate strategic approaches for each category. As part of their recommendations, the authors propose an online MBI course, which serves as the model intervention implemented with students in the present study.

By situating the current study within the dual contexts of conscription-based military service and higher education, this research contributes to a growing body of literature exploring how mindfulness can function not just as a therapeutic tool, but as an educational and developmental resource in high-stress institutional settings. As the generational perception of military service shifts and traditional notions of stoicism give way to a more holistic understanding of health and performance, interventions like MBIs may become critical in supporting the psychological well-being of future conscripts. Further studies are warranted to examine the long-term impacts of such programs and to refine delivery methods suited for diverse military populations.

Methods

Participants

Participants for the current study were undergraduate students in the Korean military registered in an online MBI course at Korea Advanced Institute of Science and Technology (KAIST) in South Korea. Students participated in the course by viewing prerecorded video lectures outside of their official military service hours, including during evenings and on designated days off. Sixteen students

[5] Jung and Kim, "A Comparison of Online and In-person MBI Classes on Self-compassion and Creativity"; Kim, Hwang, and Kim, "Neural Correlates of Creative Drawing"; and Kim et al., "Mindfulness Intervention Courses in STEM Education."
[6] K. W. Park et al., "A Mindfulness Approach to Enhancing the Mental Health of Military Personnel: Strategic Proposals Tailored to the Specificities of the Republic of Korea Army," *Korean Journal of Advances in Military Studies* 81, no. 1 (2025), https://doi.org/10.31066/kjmas.2025.81.1.008.

enrolled in the course, and nine students provided informed consent to participate in the study.[7] All participants were male and, at the time of the MBI course, were serving their mandatory military service. Ages ranged from 21 to 23 years, with an average age of 22.1 years.

Intervention

The 16-week curriculum combined 28 short-form (20 minute) videos, 36 reflective journaling assignments, and structured meditation sessions across a variety of mindfulness themes: body scan, breath awareness, emotional identification, selective attention, and self-compassion. Weeks 8 and 16 were excluded due to exams. The entire course was conducted with asynchronous online videos. The first author served as the facilitator of the course and is a qualified Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), and Mindful Self Compassion (MSC) teacher. Beginning with relaxation exercises, the curriculum covered selective attention and loving-kindness, training of sustaining and switching attention, and then clarification of individuals' life purpose and true goals.[8]

Videos were designed to be engaging and contextually relevant, incorporating student-submitted stories with requested background music, instructor feedback, animated meditation guidance, and recordings of real-time offline sessions accompanied by five teaching assistants (TAs) who shared their experiential learning. Two of the TAs are coauthors on the current study. The course videos were designed by the facilitator, with TAs appearing alongside the facilitator to demonstrate meditation practices and share brief post-practice reflections. The TAs consisted of KAIST undergraduate and doctoral students, including one doctoral student currently

[7] The current study was conducted with the approval of the Korea Advanced Institute of Science and Technology's (KAIST's) Institutional Review Board (IRB) (approval number: KH2024-071) and has therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. Informed consent was obtained from all individual participants included in the study.

[8] *Selective attention exercises* refer to practices that train the ability to focus on a specific stimulus while filtering out irrelevant stimuli. *Loving-kindness exercises* refer to practices where participants silently repeat positive phrases toward themselves and others (e.g., "May I be happy, may I be safe" and "May you be happy, may you be safe") to cultivate compassion and connection.

serving in the military, and were intentionally selected to enhance participants' sense of relatability and shared identity. This multifaceted approach was tailored to the lived realities of soldier-students: restricted schedules, physical fatigue, and the psychological dissonance of balancing academic identity with military obligations. One of the current study's coauthors, an active-duty military officer who was also a doctoral student at the time of the course, served as a TA in course development and video production, helping to ensure the content reflected the real-life service context of the participants. They were intentionally selected as a TA appearing in the lecture videos to enhance participants' sense of relatability and shared identity.

Each week, students were required to view the corresponding videos and submit three meditation diaries responding to four consistent reflection questions following each practice, with additional entries encouraged and factored into their course credit. During the semester, participants were encouraged to submit personal stories about their military experiences or messages for peers, which were then shared as individual video narratives. Participants also submitted a song, which was included in the closing segment of each edited video. Submitting a story and a song was considered a single assignment, completed once by each participant. After the semester concluded, participants were contacted via email to explain the intention to analyze their meditation journals for a qualitative research study. The course facilitator and the TAs communicated with the participants via email to obtain informed consent for the use of their meditation journals for research purposes.

A distinctive feature of this MBI is its emphasis on finding one's own mission and vision. Conscripted college students commonly share a worry about their future after military discharge. During this period, the problem of how to lead one's life gets more relevant as one gets temporarily separated from an ordinary academic track they have been following for more than a decade. Many feel worried about losing momentum and falling behind in this track of academic, professional development. Therefore, the last part of the curriculum was centered in countering anxiety, analyzing one's internal traits and external environment, and finding paths for navigating one's life by visualizing one's true hope and mission during meditation.

Data Collection

The participants answered four questions after each meditation practice: Q1) How do you feel after meditation? Q2) What sensations do you feel in your body? Q3) Where and how do you feel your breathing? Q4) How do you feel now, after writing this report? All participants in this study voluntarily agreed to provide their meditation diaries for research purposes.

Data Analysis

As researchers, the authors recognize that their social, cultural, and professional identities influence how they designed, interpreted, and represented the findings of this study. The research team was made up of individuals with backgrounds in psychology, education, and military studies. Multiple authors have experience teaching or researching within military educational institutions, while others bring disciplinary training rooted in contemplative pedagogy. These varied backgrounds informed their sensitivity to the unique demands placed on Korean military students and shaped their commitment to presenting their experiences with accuracy, respect, and cultural humility.

The investigators who conducted the thematic analysis were not involved in the delivery of the course, the students' academic evaluation, or the translation of the journals, which enabled a more independent analytic approach to the data. At the same time, the authors acknowledge that their experience in mindfulness-related research may have influenced the way they attended to certain experiential elements in participants' reflections. To mitigate these influences, the investigators who conducted the analysis engaged in ongoing dialogue throughout coding, compared interpretations across investigators, and revisited the raw data repeatedly to ensure the final themes reflected participants' words rather than the author's expectations.

The present study used a data-driven, inductive thematic analysis approach to analyze the qualitative data collected in the participants' journals and identify common elements related to participants' entries. Victoria Clarke and Virginia Braun note that the aim of thematic analysis "is to identify, and interpret, key, but not necessarily all, features of the data, guided by the research question (but note that in TA, the research question is not fixed and

can evolve throughout coding and theme development)."[9] Thematic analysis was chosen for this study because of its flexibility in enabling the researchers to take a data-driven approach that can also be informed by prior research and theory.

Prior to analysis, the participants' journals were translated from Korean to English by one researcher. The analysis was then conducted by two investigators not involved in the data collection or translation phases of the research, following Braun and Clarke's guidelines for thematic analysis.[10] First, they familiarized themselves with the data by reading the participants' journal entries multiple times and noting their initial thoughts and ideas for coding.

Second, the investigators generated initial codes across the entire data set and gathered the relevant journal entry data for each emergent code. Third, the investigators collated the codes into possible themes and grouped relevant data into each theme. During this process, the investigators also identified potential subthemes. Fourth, the investigators reviewed the codes, subthemes, and themes, differentiating and merging them as needed to ensure they fit within a coherent thematic map. The investigators then reread all journal entries to ensure the themes accurately represented the data set and to identify and code anything that may have been missed in prior stages into the appropriate themes. Fifth, the investigators refined the themes by creating names and definitions for each. The theme refinement's goal was to ensure the identified themes and subthemes were both internally homogeneous and externally heterogeneous. In the final phase of analysis, the investigators completed a final analysis of the themes and data within them as they related to the research question and current literature.

Results

Data analysis revealed two primary themes. The first theme highlights a common personal process through which students developed a meaningful relationship with their introduction to

[9] Victoria Clarke and Virginia Braun, "Thematic Analysis," *Journal of Positive Psychology* 12, no. 3 (2017): 297–98, https://doi.org/10.1080/17439760.2016.1262613.

[10] Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101, https://doi.org/10.1191/1478088706qp063oa.

mindfulness practices. While the individual student journal entries articulated unique experiences, a clear pattern emerged in how students progressed toward appreciating mindfulness as a relevant practice for their wellbeing. Despite differences in the personal reflections, the students' journeys followed a consistent trajectory.

The components of the overarching personal process are represented by three subthemes including level of comfort, normalization, and intent to continue. Initially, student responses focused on their perceived levels of physical and psychological comfort with mindfulness as a concept and with specific practice sessions. As their comfort level increased, students articulated a sense of normalization with an ability to move past the discomfort they experienced during the initial sessions of their mindfulness practice. Finally, toward the end of the course, the focus of the students' reflections transitioned from physical and psychological factors of their individual sessions to expressing their appreciation for mindfulness relative to their wellbeing and their intent to maintain a mindfulness practice.

The second primary theme identified within the data relates to the outcomes experienced by the students as a result of engaging in the mindfulness practices. Two subthemes within the outcomes experienced include the participants' self-identified physiological benefits as well as increased self-awareness (both physical and mental). The participants clearly and consistently articulated their perceptions of the outcomes they experienced that resulted from the introductory mindfulness practices.

Table 1 articulates the definition of the primary and secondary themes that surfaced from the study's data analysis.

Personal Process

Beyond the specified personal experiences that the participants expressed in their journal entries, investigators identified a consistent pattern through which participants developed a personal relationship with the mindfulness practice instruction during the 16-week course. While each participant described their experience in their own words, focusing on different aspects of their introductory mindfulness practices, a consistent developmental process emerged when their reflections were viewed collectively.

Table 1. Primary and secondary themes identified and defined

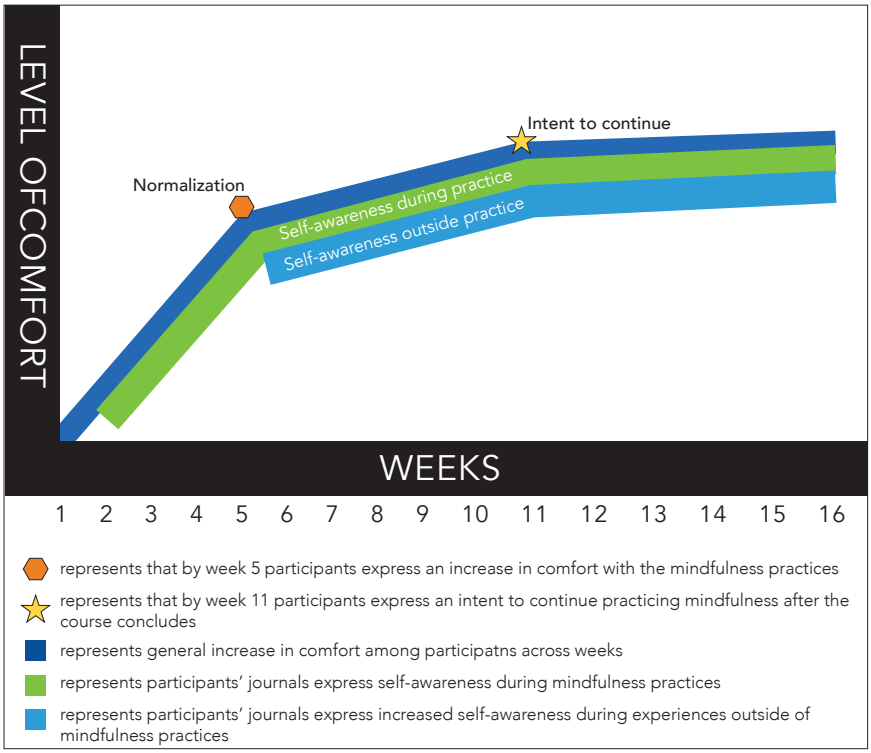
Theme	Subtheme	Definition
Personal process		The development of a personal relationship with the practice that follows a predictable pattern.
	Level of comfort	Ease of psychological and physical engagement at any given point.
	Normalization	Willingness of participants to adjust their responses to, and move past, their discomfort and the ambiguity within the practice.
	Intent to continue	Indications by participants of their plan to practice mindfulness in the future.
Outcomes experienced		Recognition of a consequence of one's mindfulness practice.
	Physiological (e.g., improved sleep, body tension)	Participants' physical experiences.
	Self-awareness (physical and mental)	Participants' mental acuity and emotion regulation; recognition and understanding of one's thoughts, emotions, and physiological responses.

Source: courtesy of the authors.

The graphic and process described in figure 1 illustrates a developmental pattern of how personal relationships with mindfulness practices may evolve.

Participants' journal entries depict that they navigated through the individual components of developing a mindfulness practice through a predictable yet personalized process. Initially their reflections were surface level and expressed a lack of comfort, levels of discomfort, and sometimes resistance toward the practice. As the participants grew more accustomed to mindfulness practices, their

Figure 1. Developmental pattern of relationship with mindfulness practices



Source: courtesy of the authors, adapted by MCUP.

reflections expressed a sense of normalization and acceptance for the physical, psychological, and emotional components of their experiences. Eventually, their journal entries reflected a notable shift in mindset, with many participants articulating explicit plans to continue engaging in mindfulness practices and a willingness to explore and expand their practice.

During the 16-week experience, the participants' developmental arc moved from early discomfort—even occasionally disdain toward mindfulness as a daily activity—to a genuine interest in deepening their practice. While the degree of initial discomfort varied among the participants, the overall trajectory toward increased comfort was consistent. Early journal entries described feelings of distraction and discomfort, which gave way to contentment and, ultimately, a desire to integrate mindfulness more fully into daily life. By the final journal entries, participants demonstrated not

only a heightened level of comfort but also a growing respect for mindfulness and its relevance in both personal and professional contexts.

Level of Comfort

The first subtheme that emerged under the process theme was level of comfort, which reflected the ease with which participants engaged in their weekly mindfulness practices. Participants described varying levels of both psychological and physical comfort, often expressing their desire for greater ease in their practice. Specifically, early journal entries frequently highlighted struggles with physical discomfort and difficulties maintaining focus. One participant shared, "I struggled to maintain focus, constantly adjusting my posture, sitting down, and stretching to alleviate muscle tension. Moving forward, I must practice meditation in a more conducive environment and remain consistent to improve my ability to concentrate in crowded situations."

As the semester progressed, participants grew more comfortable with these challenges, demonstrating increased acceptance of discomfort as part of the mindfulness process. One participant shared, "Reflecting on my fourth week of meditation, I feel like I've grown slightly more at ease with my meditation routine compared to week three." Similarly, other participants' journal entries ranged from surface-level observations about physical discomfort and growing ease to deeper reflections on internal experiences, emotions, and sensations. One participant described a profound shift in their awareness, writing, "I felt serene and rejuvenated upon concluding my meditation session. There's a lingering sense of vitality from the practice, as the heightened awareness of my existence infuses me with energy. This awareness instills a profound sense of confidence, as if I am in tune with something greater than myself."

The above reflections illustrate a clear progression from initial discomfort to a more integrated sense of comfort, self-awareness, and confidence in their mindfulness practice.

Normalization

The subtheme of normalization emerged as participants became more willing to move past their initial discomfort and uncertain-

ty with the practice. Over time, they adapted to the experience, demonstrating a shift from frustration to acceptance. One participant reflected on this transition, writing, "Compared to last week, the meditation felt less awkward and more natural . . . so I've been tense all day, but after the meditation, I felt relaxed and unwound." The growing sense of ease was echoed by others who described a gradual shift away from frustration toward acceptance of integrating mindfulness into their lives. As one participant noted, "I feel like I've done a good job today, and that meditation is becoming a part of my daily routine."

The participants' reflections expressed a transition from initial hesitation to a more natural, accepted, and routine engagement with mindfulness practice.

Intent to Continue

The final subtheme that emerged within the developmental process was intent to continue. Many participants expressed a commitment to maintaining their mindfulness practice beyond the course. One participant reflected on their newfound appreciation for mindfulness by writing, "This was my first time meditating, and I had never really considered how I felt in my body before. However, now that I've done it and kept a journal, I find it interesting and enjoyable. I also feel like I'd like to do it every day in the future."

This subtheme highlights not only participants' intent to continue practicing but also their desire to explore new ways, places, and times to deepen their mindfulness experience. For some, journaling became an integral part of this process, serving as both a tool for reflection and a means of tracking progress. One student emphasized the value of journaling and reflecting as part of their practice, stating, "I believe the significant progress I've made in my meditation practice throughout the semester, albeit brief, is largely attributable to journaling. Keeping a record naturally provides self-feedback on areas for improvement, fostering personal growth. This habit, beneficial not only in meditation but also in understanding the world, has taught me a great deal, revealing valuable insights beyond the realm of meditation alone."

For many participants, journaling extended beyond simple documentation; it became an essential component of their mind-

fulness practice, reinforcing their awareness and commitment to continued growth through routine mindfulness.

Outcomes

The second overarching theme that emerged from participants' journal entries was outcomes. Throughout their reflections, participants recognized the effects of their mindfulness practice, noting various changes and benefits. These outcomes were categorized into two key subthemes: physiological outcomes and self-awareness outcomes.

Physiological

Physiological outcomes encompassed participants' physical experiences during and after mindfulness practice. These included changes in sleep patterns, body tension, temperature, bodily sensations, and heart rate. Many participants reported positive physical effects, such as feeling more refreshed and energized. One participant reflected, "I gradually felt more awake and refreshed. After meditation, my mental fatigue, drowsiness, and physical fatigue from muscle aches and pains sensed much improved, and I felt more energized." Similarly, another participant described a newfound sense of physical ease, writing that "after meditation, I sensed remarkably lighter. . . . My neck and back muscles also loosened, and my body movements became more relaxed and fluid."

Not all physical experiences were immediately comfortable, but even those who encountered initial discomfort often reported positive effects afterward. One participant noted, "My tired eyes cleared up, my body felt warm, and discomfort in my legs and arms, which had bothered me during the meditation, lessened afterward."

Throughout the semester, physiological responses fluctuated. Some participants initially experienced increased body tension but later reported a reduction in discomfort as they grew more familiar with mindfulness practice. These shifting experiences highlight the evolving physical impact of meditation as participants became more comfortable and attuned to their bodies.

Self-Awareness

Self-awareness Outcomes represent participants' experiences with mental clarity, emotional regulation, and cognitive organization. Many of the participants' journal entries highlighted their perception that mindfulness was beneficial in fostering a calm and relaxed mind. One participant reflected, "Before meditation, I felt weighted down by the tasks at hand, perceiving slow progress due to the pressure, which created a cycle of negative feedback. However, after meditating and clearing my mind, I was able to objectively evaluate the workload that had felt overwhelming. This enabled me to navigate through tasks with greater ease and efficiency."

Others described how mindfulness helped them feel more prepared for the day, with one participant noting, "Through meditation, as I attempted to clear my mind, I found that my to-do list appeared less daunting, allowing me to approach my situation more objectively."

Beyond mental clarity, participants also experienced increased energy, focus, and organization of thoughts. One individual explained, "I realized that meditation can help me feel more energized and productive during the lethargic days that often come with military life. I love my evening meditation at the end of the day, but I also feel strongly about starting my day with a morning meditation on the weekends to ensure that I have a more energized and meaningful day."

Others described heightened concentration and mental refreshment, with one participant sharing, "I felt refreshed after the meditation. I didn't actually feel cool; I just felt refreshed because my mind wasn't cluttered. . . . I've often compared a clear mind to a tightly knotted thread, but it's a bit different. It's a clear streak and horizontal." Similarly, another participant noted, "It's satisfying to have my thoughts organized, unlike before meditation. I believe meditation involves temporarily ceasing thought processes, and it's remarkable that this alone can lead to clearer thinking. I think it's because the stress associated with recognizing that I have many complicated thoughts is reduced, allowing me to think more clearly and generate new ideas."

In addition to cognitive benefits, participants also reflected on how mindfulness practice enhanced their emotional processing and emotional intelligence. Several described increased emotional

awareness and clarity, leading to more balanced decision-making. One participant shared, "Eventually, I was able to consider what would be best for me, leading to a more organized emotional state and a resolution to the situation with objectivity. It's been a while since I've practiced meditation in such an emotionally charged situation, but I've discovered that even in circumstances where I anticipate difficulty focusing, meditation proves to be remarkably effective."

Another participant described a deeper understanding of personal emotions and their connection to empathy, writing, "I think my lack of empathy for others stemmed from a lack of attention to my own feelings. Through meditation, I was able to focus on my past experiences, visualize those feelings again, and examine them from a distance. Future life is not always filled with happiness and comfort. It's crucial to constantly be aware of my emotions and work through them. By being mindful of my own emotions and experiencing them, I can empathize with others better."

As participants progressed through their meditation journey, many reported noticeable growth in their ability to regulate thoughts and emotions. Early entries often described challenges with managing negative emotions, as one participant noted, "I found it most challenging to experience the emotions without dwelling on their trigger or associated events, making it difficult to maintain focus. Similarly, observing my thoughts as they arose proved to be somewhat challenging during the mindfulness meditation of thoughts."

However, later reflections demonstrated a shift toward greater acceptance and emotional balance. The same participant later wrote, "The most notable change from before I began meditating is my newfound ability to accept things as they are. Previously, whenever confronted with negative thoughts or emotions, I would attempt to transform them into something positive, often exacerbating my distress. Nevertheless, through the practice of simply observing things as they are, I've learned to acknowledge negative emotions without judgment, leading to better self-understanding and the cultivation of positive emotions. Following today's meditation, I feel considerably more relaxed and composed in both body and mind."

The reflections above illustrate the transformative impact of

mindfulness on self-awareness, from increased mental clarity and emotional regulation to a deeper understanding of personal experiences and interpersonal empathy.

Discussion

The current study demonstrates that asynchronous, online mindfulness-based interventions (MBIs) can be effectively implemented as a component of undergraduate coursework for students operating within the highly regulated and hierarchical structure of the Korean military. Despite the inherent limitations of this environment including rigid schedules, limited autonomy, and high levels of psychological stress, the participants showed a progressive internal engagement with the mindfulness practices over time. Their journal reflections captured a clear shift in experience: from initial skepticism and discomfort, to increasing familiarity, and ultimately to the emergence of intrinsic motivation to continue mindfulness independently.

The findings of the present study are consistent with and extend prior research conducted with Korean students on mindfulness meditation programs. Previous studies have demonstrated that regular mindfulness training positively influences students' emotional stability, cognitive clarity, self-awareness, and creativity.[11] Building on these findings in educational contexts, the current study expands the application to university students fulfilling mandatory military service, implementing the intervention in an online format. The results empirically support that MBIs can provide physiological benefits and self-awareness even within highly constrained environments. This underscores the adaptability and efficacy of mindfulness programs across diverse populations, particularly in challenging settings such as the military, where access to such interventions is typically limited. Moreover, the present study reveals that comparable benefits can be experienced despite the substantially restrictive surroundings. By tailoring the program content to address the unique demands and psychological realities of conscripted student-soldiers, the intervention successfully provided a relevant and manageable entry point to contemplative practice.

[11] Jung and Kim, "A Comparison of Online and In-person MBI Classes on Self-compassion and Creativity"; Kim, Hwang, and Kim, "Neural Correlates of Creative Drawing"; and Kim et al., "Mindfulness Intervention Courses in STEM Education."

One of the most significant outcomes of this study is the participants' stated intent to continue practicing mindfulness after the course's conclusion. This voluntary expression of sustained interest is not a trivial byproduct of participation, but rather a key indicator that the program fostered a meaningful sense of personal agency. Within military settings, where individuals typically have limited opportunities for autonomous decision-making, the development of self-directed psychological tools represents a substantial gain. Participants did not merely passively receive instruction; rather, they engaged with it critically, reflected on their own needs, and actively chose to carry the practice forward. In this sense, the intervention did more than relieve stress; it promoted a deeper sense of ownership over one's internal state.

Furthermore, the program's emphasis on journaling appears to have strengthened this process of internalization. Participants consistently described how journaling helped them notice patterns in their emotional responses, refine their self-understanding, and generate personal insights that extended beyond the formal scope of the course. In a context where emotional expression is often limited, the opportunity to reflect and write freely seemed to act as a powerful bridge between the practice and its long-term psychological relevance.

These outcomes are especially compelling when viewed in light of the broader cultural and institutional barriers to mindfulness adoption within military contexts. Military service is often framed as a time of endurance, discipline, and external conformity. In contrast, mindfulness invites attention to one's inner landscape including thoughts, emotions, and bodily sensations, and encourages acceptance rather than suppression. The fact that participants not only accepted this contrast but grew to value and internalize it, suggests that contemplative education, when adapted appropriately, may have far-reaching applications even in settings traditionally resistant to introspective practices.

The implications of this research reach beyond short-term well-being. The development of mindfulness habits during military service may serve as a protective psychological buffer during transitions back to civilian life, especially for students reentering competitive academic or professional environments. The findings suggest a long-term potential for mindfulness to function as a sta-

bilizing force, ultimately helping young adults navigate identity, purpose, and personal direction during and after service. Given that the latter portion of the curriculum focused on vision-setting and life planning, it is likely that participants' insights were not merely therapeutic but also developmental, equipping them with tools for self-leadership and values-based decision-making.

The progression observed included transitions from resistance to routine and from discomfort to intentional continuation illustrating that the capacity for mindful awareness is not contingent on freedom of environment, but on the relevance, resonance, and quality of the invitation. Future research should explore the sustainability of these changes post-discharge and investigate how different delivery methods or support systems might further enhance long-term adherence and impact.

Limitations

The current study has limitations including generalizability, reliance on self-report measures, and lack of control group. The small sample size and the unique context of Korean military service limit the generalizability of the findings. In addition, the use of self-reported meditation journals may be influenced by participants' motivation, recall accuracy, and social desirability bias. The absence of a control group precludes causal conclusions regarding the effects of the intervention. Future research should incorporate control groups, recruit larger and more diverse samples, compare different delivery methods, and conduct longitudinal assessments to examine the sustainability and long-term effects of mindfulness habits.

Conclusion

The current study reinforces the idea that mindfulness can be more than a coping mechanism, it can become a lifelong resource for psychological flexibility and self-regulation. When embedded within a structured, context-sensitive program, even individuals operating under significant external control can access and benefit from contemplative practice. The findings offer important implications for well-being initiatives within the Korean military and provide future directions for research across PME institutions globally who are interested in implementing similar programs. MBIs appear feasible despite the logistical and cultural constraints of the Kore-

an military and may serve as a powerful tool to enhance psychological resilience in a population often overlooked in preventive mental health efforts. This suggests a latent potential for MBIs to become a normalized element of mental health programming in military environments, both in Korea and internationally. While this study focused specifically on undergraduate Korean military members, previous research has indicated benefits of mindfulness across American military forces and other high stress occupations that may have implications for transferability of the current study's findings to broader military audiences.[12]

Furthermore, this study is significant as it is the first to implement an online semester-credit mindfulness course within the Korean military. Notably, when producing the videos used for the course, a current in-person course participant, who is also an active-duty soldier, participated in the video production, enhancing student engagement and immersion in the course. In addition, participants in the online course shared their personal stories and requested songs, which were incorporated into the final videos. Researchers designing the study intentionally incorporated student preferences into the videos when the students' songs and stories did not detract from the MBI structure. The researchers purposefully incorporated students' shared content into the recordings with the intent to broaden the sense of empathy and connection between the mindfulness instructor and the students. Although real-time feedback was not possible, these participatory elements were designed to play a key role in enhancing student engagement and enriching their overall program experience.

[12] Kelly R. M. Ihme and Peggy Sundstrom, "The Mindful Shield: The Effects of Mindfulness Training on Resilience and Leadership in Military Leaders," *Perspectives in Psychiatric Care* 57, no. 2 (August 2021): 675–88, https://doi.org/10.1111/ppc.12594; Amishi P. Jha, Mary K. Izaguirre, and Amy B. Adler, "Mindfulness Training in Military Settings: Emerging Evidence and Best-Practice Guidance," *Current Psychiatry Reports* 27, no. 6 (June 2025): 393 –407, https://doi.org/10.1007/s11920-025-01608-6; and Amishi P. Jha et al., "The Effects of Mindfulness Training on Working Memory Performance in High-Demand Cohorts: A Multi-Study Investigation," *Journal of Cognitive Enhancement* 6, no. 2 (2022): 192–204, https://doi.org/10.1007/s41465-021-00228-1.

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