



ANDRAGOGY IN A MILITARY LEADERSHIP COURSE

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Abstract:

The purpose of this study is to explore the suitability of an andragogy-inspired approach to teaching in a newly developed military leadership course for seasoned officers. First, we argue that it is theoretically reasonable to consider andragogy as useful for creating a learning environment suited to officers' needs. Such an environment may help them navigate the complexities of the military context while employing the trust-based leadership style of mission command. Second, we examined course participants' learning-environment experiences through a questionnaire that gathered their reflections on six common andragogical learning assumptions. Our thematic analysis indicated that, overall, participants perceived these assumptions as positively influencing their learning process. However, participants' reflections highlight the importance of course timing, the balance between theory and practice, psychological safety, and motivation in strengthening the andragogical approach in the context of this course. Based on this exploratory study, we conclude that andragogy offers a promising framework for educating seasoned officers in leadership. For more definitive and generalizable conclusions, however, we encourage further empirical research with larger samples and diverse study designs.

Keywords: andragogy, leadership development, military pedagogy, professional military education

1. Introduction

A key aspect of the military operational environment is its volatility and unpredictability (Morath *et al.*, 2011; Torgersen, 2015), requiring military leadership students to be as

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prepared as possible for such conditions. Professional military education, which addresses the leadership, management, and planning of operations, often aims to consider this key contextual aspect when designing pedagogical approaches (Persyn & Polson, 2012; Sookermany, 2017). For example, several authors have argued that a pedagogy promoting reflection and critical thinking in officer education, alongside needed drills for automating behaviors, can strengthen military organizations in adapting to ever-changing circumstances (Becker & Schatz, 2010; Gleiman & Zacharakis, 2016; Zacharakis & Van Der Werff, 2012). Particularly in mid-career professional military education, such as the Command and Staff Colleges, which is the focus of this paper, there has been a strong emphasis on promoting higher-order cognitive skills, such as critical thinking (Antrobus & West, 2022; Goode, 2019; Johansen *et al.*, 2021).

To aid military leadership students in developing higher-order cognitive skills, adult learning principles naturally inform effective teaching strategies (Merriam & Baumgartner, 2020). One particularly comprehensive framework of adult learning principles is that of andragogy, which emphasizes assumptions on how resourceful adults prefer to learn. Malcolm Knowles, the late American educator who became a prominent advocate for andragogy, formulated several such assumptions. For instance, as individuals mature, they accumulate life and work experiences, which enhance their ability to reflect on past choices and behaviors in learning situations relative to when they were younger (Knowles, 1980). Consequently, Knowles argued that adults benefit educationally from sharing experiences, promoting to give students ample time to reflect and converse with each other. Through the years, Knowles identified six assumptions about adults' preferred learning (Knowles, 1984). Chan (2010, pp. 27–28) summarizes those assumptions in the following manner:

- Self-concept: Adults are self-directed, autonomous, and independent.
- Role of experience: The repository of an adult's experience is a rich resource for learning. Adults tend to learn by drawing from their previous experiences.
- Readiness to learn: Adults tend to be ready to learn what they believe they need to know.
- Orientation to learning: Adults learn for immediate applications rather than for future uses. Their learning orientation is problem-centered, task-oriented, and life-focused.
- Internal motivation: Adults are more internally motivated than externally.
- Need to know: Adults need to know the value of learning and why they need to learn.

The core idea of these assumptions is to inform educators about key characteristics of adult learners, aiming to reduce redundant lecture-based teaching that can lead to passivity and even resistance among students (Knowles *et al.*, 2020). These assumptions highlight that adult learners likely benefit from active participation and having some influence on the learning process (self-concept). Allowing time for students to share their previous involvement in the subject matter (role of experience) can enhance their educational experience. Furthermore, it may be beneficial for learning if teachers address how the subject matter is relevant to the students (readiness to learn) and consider which

topics are applicable to their current situations (orientation to learning). Finally, the assumptions suggest that a productive learning environment includes students who attend voluntarily (internal motivation) and understand why they chose to attend in the first place (need to know).

Though Knowles's understanding of andragogy has faced critique, such as his sharp distinction between pedagogy and andragogy (Loeng, 2023) and the psychological validity of some assumptions (Moll, 2024), we believe it offers notable practical benefits. The fairly well-operationalized assumptions can facilitate empirical research and support the clear communication of adult learning principles. Furthermore, their somewhat abstract nature enables a broad legitimatization of diverse educational methods with the common natural goal of promoting a 'guide on the side' rather than a 'sage on the stage' approach. Importantly for our purposes, andragogy offers an overarching teaching philosophy that may be particularly relevant to leadership education and development.

2. Literature Review: Andragogy and Leadership Education

The presumed usefulness of andragogy in leadership education and training has received attention in non-military leadership and management literature, notably by Forrest and Peterson (2006). They describe how andragogy aids in developing independent and adaptable leaders in management education programs. They argue that andragogy is particularly relevant for preparing future leaders to navigate a dynamic and ever-changing business world. An important point raised is that many organizational challenges lack a single solution. Therefore, the learner-centered process which an andragogical approach facilitates, for instance, in the form of interactive problematization and investigation between teacher and students, is highly valued.

A somewhat similar advocacy can also be found in the work of McCauley and colleagues (2017), which presents several instructional tools, such as reflective essays and case studies, that align with andragogical assumptions. They highlight that these andragogy-inspired tools help bridge the gap between leadership theory and practice, optimally preparing leaders for real-world complexities. Additionally, Jeanes (2021) argues that andragogical traditions have significantly contributed to fostering a growth mindset in leadership education. Jeanes contends that a growth mindset, as opposed to a fixed mindset, is particularly valuable when specific competencies and skills are insufficient for solving complex leadership challenges.

The alignment between andragogy and leadership education and training continues to be evident in the literature, most recently in a comprehensive anthology by Wang (2023). The essence of this literature, as reflected in Wang (2023) and the works of Forrest and Peterson (2006), McCauley *et al.* (2017), and Jeanes (2021), is the recognition of the complexity of organizational problems and challenges. It is, therefore, important to equip future leaders with the ability to not only recognize these complexities and challenges but also to reflect such a context in their education. A dominant teacher-centered approach, or a primary lecture-based pedagogy, may fall short in this regard. As Forrest and Peterson (2006) argue rather strongly, lecture-based approaches can lead

to passivity and the counterproductive belief that clear answers can be obtained for fluid markets and circumstances. They assert that traditional pedagogy, as they call it, has typically avoided addressing realistic complex situations, in part because “*..the instructor, as a font of knowledge, no longer has control over the classroom*” (p. 120).

Turning to the military domain, we believe a teacher-centered approach, sometimes called instructor-oriented teaching in the armed forces, can be considered valuable in some contexts (e.g., receiving an introduction to a theoretical leadership topic). Therefore, we do not share the overly candid semantics in Forrest and Peterson’s paper, although their forthrightness in highlighting the importance of acknowledging a dynamic context extends equally to the armed forces. As noted earlier, the recognition of a complex and volatile world has long been a well-accepted characteristic of the military context (Herberg, 2022; Torgersen, 2015), serving as the backdrop for professional military education for several years (Persyn & Polson, 2012). The notion of complexity is witnessed in the seminal writings of Clausewitz regarding the fog and friction of war and has been extensively acknowledged in published literature since WWII (Melton, 1957). Increasing mission diversity, social diversity (among both allies and combatants), and technological advancements are among the modern factors contributing to the fluidity of the military operational context (Boe *et al.*, 2017; Morath *et al.*, 2011). Furthermore, given that military leadership can involve dangerous (in extremis) contexts that heighten the probability of unforeseen consequences (Campbell *et al.*, 2010; Hannah *et al.*, 2009), adaptability is particularly crucial. In such circumstances, military leaders must quickly adapt to volatile environments and unexpected events to secure efficient operations, underlining the unpredictability of warfare even stronger. The emphasis on higher-order cognitive skills (Becker & Schatz, 2010) and critical thinking (Antrobus & West, 2022) as essential characteristics for military leaders is, therefore, not surprising. Thus, the main arguments put forth by Forest and Peterson (2006) regarding the relevance of andragogy for developing adaptive leaders remain sound for the military realm.

To further reflect on the theoretical linkage between andragogy and military leadership, the mission command leadership philosophy emerges as a relevant perspective. Mission command is endorsed by the NATO alliance and, by extension, Norway, where this study is situated. This leadership philosophy is believed to reduce the friction of conflicts, crises and wars by letting leaders encourage decentralized actions and initiatives, thus avoiding micro-management that may pose a threat to creativity and tempo in solving missions (Chief of Defence, 2020). Besides reducing the friction of war, mission command has recently been shown to enhance soldiers’ autonomous motivation and job satisfaction (Knevelsrud *et al.*, 2023), a significant human factor benefit for military organizations. However, a psychological threat to mission command is often attributed to leaders’ need for control and the human tendency toward rigid thinking (Ben-Shalom & Shamir, 2011). Andragogy-inspired teaching is one possible way of mitigating such threats, especially by fostering interactive problem-solving and collaborative inquiry between instructors and students, as well as between students themselves. This can support students’ emerging reflections and opinions, essentially

signaling an adaptivity in the classroom that can cultivate an exploratory mindset beneficial for mission command execution.

In summary, for the theoretical reasons outlined, we believe that andragogy has the potential to enhance military leadership education. Our primary argument is anchored in the recognition of the unpredictable nature of the contemporary world, which necessitates that leaders across diverse professional sectors, including business (Forrest & Peterson, 2006) and the military (Morath *et al.*, 2011), cultivate higher-order cognitive skills for increased adaptability. Additionally, andragogy's likely capacity to promote investigative mindsets holds promise as a means to strengthen mission command (Ben-Shalom & Shamir, 2011), a leadership approach resembling trust-based management. For these reasons, teaching inspired by andragogical principles appears particularly promising in the context of higher leadership and management education. The empirical examination, to which we now attend, was motivated by our belief and experience that implementing andragogy-inspired teaching has potential benefits but may also entail potential challenges. Transforming the classroom into a dynamic and somewhat unpredictable space may not be straightforward from a practitioner's perspective.

3. Context and objective of the empirical study

Although numerous papers within adult education and leadership development have addressed andragogy and its presumed implications (Knowles *et al.*, 2020; Wang, 2023), we have not found published military studies focusing explicitly on discussing the application of the six principles based on empirical evidence. The scarcity of targeted empirical studies concerning the six principles has also been stated in non-military learning situations (Purwati *et al.*, 2022). Our empirical exploration may therefore offer insights and further reflection into applying andragogy-inspired strategies, while also addressing calls for exploring student-active methods in professional military education (Johansen *et al.*, 2021). However, the generalizability of these findings is inherently limited by our focused sample and the specific context of the study. This paper is, therefore, first and foremost explorative.

The empirical exploration takes place in the context of a small-group course, featuring seasoned participants engaged in an academic subject that integrates developmental activities. Specifically, the examined course is a newly developed elective in the master's program at the Norwegian Command and Staff College, titled Military Leader and Management Development in Theory and Practice (10 ECTS). Over six weeks, 10-15 officers in their late 30s and early 40s engage with theoretical models, and activities such as personality testing and team role mapping. The course incorporates independent group reflections, instructor-led discussions and debates, and lecture-based sessions. Several guest speakers aim to enrich the learning experience further. The final exam requires a written assignment combining a personal leadership philosophy with theoretical perspectives. The learning objectives and outcomes for the course can be

found in the appendix, where the main aim is to prepare future high-ranking officers to build a professional leadership culture.

The following research question was formulated for guiding the empirical study:

- What are students' experiences with the six andragogical learning assumptions following a six-week military leadership course for seasoned officers?

4. Methodology

4.1 Participants and Procedure

Among the eleven students attending the military leadership course in 2024, ten chose to participate in this study. To ensure anonymity in this small sample, we did not collect participants' age or sex. In the final sample, most are men, and all are military officers, where students typically hold the rank of major upon entering the program. The study participants represented all three military branches: Army, Air Force, and Navy. After the six-week leadership course concluded, an invitation letter explaining the study's purpose and requesting voluntary participation was sent to the students. Those who agreed to participate provided informed consent by accessing a link to a digital questionnaire based on the six andragogical assumptions, using the Armed Forces' IT system where anonymity was ensured. The open-ended questionnaire responses were then transferred to the NVivo 14 software (Lumivero, 2023). The research commission at the Defence University College, which oversees all research involving armed forces data in Norway, approved this study procedure.

4.2 Data Collection

The authors developed six question domains based on the andragogical framework in the following order: need to know, readiness, orientation, self-directedness, experience, and motivation. The questionnaire was developed through discussions of andragogical literature and by considering the item content of a quantitative andragogy measure (Holton III *et al.*, 2009). We chose question domains instead of specific questions for each assumption for the purpose of informing the content of each assumption as well as allowing participants to provide broad answers. These question domains, as per andragogical assumption, can be observed in Table 1. A seventh and final question asked respondents for any other reflections or opinions on the learning environment. Open spaces for responding were provided for all question domains.

4.3 Analysis

This study employed reflexive thematic analysis (Braun & Clarke, 2019, 2022; Byrne, 2022), where we followed the six steps outlined by Braun and Clarke (2006) to address the research question. The first and second authors, both social scientists with academic positions in, respectively, the military and police, followed the steps, then discussed the process and presented the results to the third author, a military officer and professor of leadership.

Initially, we (1) *familiarized ourselves with the data* and noted initial ideas for coding, before systematically (2) *generating initial codes*. Codes were generated inductively, where semantic segments (i.e., quotes) considered potentially relevant to the research question were identified. This stage in the analysis resulted in ten codes (e.g., timing of the course) we deemed satisfactory for pursuing the next analytic step, (3) *searching for themes*. Themes are understood as analytic outputs developed from codes. They represent patterns of meaning based on a shared idea or concept formed at the intersection of the data and the researcher's interpretation. When we thoroughly (4) *reviewed the themes*, three main patterns were interpreted. Next, we (5) *defined and named the themes*, reaching an agreement on their scope and relevance to the research question. Finally, we focused on (6) *producing the report* and translating the relevant semantic segments from Norwegian to English.

Table 1: The Andragogical Assumptions and Associated Question Domains used in the Questionnaire

Andragogical assumption	Question domain
Need to know	To what extent did you have thoughtful reasons for choosing the elective subject in the first place? What thoughts did you have about the subject's relevance to you before you started?
Readiness to learn	To what extent would you say the subject actually became relevant in relation to your current job/service? What about your overall life situation: did the learning experience fit into a suitable period in your life?
Orientation to learning	Describe your experience of the balance between theoretical and practical focus in the subject. How did you perceive the learning methods that were used in relation to this balance (lectures, reflections in plenary, panel debates, group work, self-study)?
Self-concept	How did you experience the opportunities to participate actively in the subject? Was there time and tolerance for your questions, observations, and opinions? Did you have a reasonable influence on which perspectives were addressed when this was encouraged (for example, through questions to lecturers and during discussions in plenary and groups)?
Role of experience	Did your previous work and leadership experiences, as well as any other life experiences, benefit your learning experience? How were the opportunities to share your own experiences and learn from others?
Internal motivation	How would you describe your learning motivation throughout the course? Did you experience any change/development in it (negative, positive, mixed, fluctuating)?

Note: The question domains were developed by the authors.

5. Results

Through the process of analysis, we identified three main themes describing different aspects of the participants' experiences considered relevant to the research question. In the following, the themes will be described together with selected semantic segments from the material.

5.1 Leadership Development Through a Relevant Course

The first theme highlights participants' experiences of the course's relevance, often linked to its timing in relation to their current work situation and the focus on leadership development. As well, nearly all participants reported being motivated, and some emphasized the perceived relevance of the leadership topic itself.

The timing of the course was a particularly important factor reported regarding relevancy. Some participants noted that the course would have been more beneficial earlier in their careers but that it was still timely. This is described in the following utterances from two of the participants:

"If we assume that personnel in the military are more interested in leadership than the average person, one could argue that the content of the course was well-timed for this stage of a career, but that the same course could have had an even greater impact on the organization if it had been offered earlier in the career." (Participant 1)

and

"Very relevant. I would have also liked to have this deep dive at an earlier stage, as the course provides a good and comprehensive understanding of leadership training in the military—what we excel at, what we are less proficient at, and what we are unable to accomplish." (Participant 10)

Furthermore, several participants described how the content of the course increased self-reflection and self-insight in ways that contributed to their development as leaders, as exemplified by the following two segments:

"The course is relevant for all leaders in the Armed Forces. There is too little focus on self-development and discussions around leadership. Discussing with other adults in the same situation is fantastic." (Participant 5)

and

"Relevant in the sense that I believe it's healthy to reflect, increase self-awareness, and gain more tools for leadership." (Participant 2)

Finally, the experience of relevancy can also be seen in how the topic of leadership itself motivated some of the students. For example, one participant stated:

"Military leadership is relevant and impactful for everyone. For this reason, I found that both my own and my fellow students' motivation to learn was consistently high throughout the course." (Participant 1)

Overall, most participants found the timing of the course beneficial for their current career stage, though some noted it might be more useful at an earlier point. Many emphasized the course's relevance to their development as leaders. Additionally, several participants highlighted their strong motivation, with some linking this to an interest in the topic of military leadership.

5.2 Balancing Theory and Practice

The participants' experience of the course's format and relative weighting between theory and practice emerged as a pattern in the material, resulting in the second theme.

Whilst some participants wanted more time for reflection, discussion, and debates (i.e., focusing on practice), others preferred more theory-based lectures. Even though there was a certain variation in this respect, some students expressed appreciation for the way the course was generally organized, as described by the following participant:

"The motivation to learn was likely consistent throughout the course, but I enjoyed it more and more as I became more familiar with the weekly format, which I was very satisfied with." (Participant 5)

Participants generally appreciated the way the course integrated theory and practice, as described in the following statement:

"I am very satisfied with the balance between theory and practice. I believe that the theoretical foundation we were presented with is a useful base that will be applicable in my future service. At the same time, practical exercises, and, not least, sharing experiences, have contributed to both learning and reflection on both my own and others' leadership experiences." (Participant 9)

Some participants emphasized the importance of the course being able to connect theory with practice, particularly through discussions, debates, and reflections. This linkage was, however, noted by some as having potential for improvement:

"I thought there was a good balance between teaching, dialogue, and group assignments. I liked that the teaching was informal and adapted to emerging needs, making it easier to join discussions or ask questions. When it came to theory, this was mostly something we took responsibility for by studying on our own." (Participant 7)

and

"Good balance. I would have liked to see even more theory on actual leadership and leadership development. An even deeper understanding of the theory behind leadership and leadership development would have been preferable." (Participant 6)

The second theme primarily describes how the participants experienced the format or structure of the course as appropriate in addition to viewing the balance between theory and practice as constructive, though opinions varied regarding the ideal weighting. Notably, some expressed a preference for a stronger emphasis on theory.

5.3 Reciprocity Between Active Participation and Psychological Safety

Several participants emphasized the importance of active participation, particularly the opportunity to share leadership experiences. Some noted that a sense of psychological safety developed, enabling students to freely express their reflections and opinions. Thus, the third theme highlights the development of a certain reciprocity between active participation and experienced safety.

Many underlined the particular value of active participation and the sharing of experiences, exemplified by these two segments:

“It is always useful to draw on our own and others’ experiences. We need real situations to relate the learning to. What each person shares varies, but especially on the Wednesdays when we had group assignments, there were good sessions for exchanging experiences. I will miss those days. Additionally, I feel that it was very flexible regarding the topics, and that we as students had good opportunities to influence the content of the instruction.”
(Participant 7)

and

“The value of sharing experiences with other students, lecturers, and instructors was one of the most significant contributions to the learning experience.” (Participant 1)

The experience of trust and safety was also highlighted by some as important for fostering the expression of opinions, participation in discussions, and asking questions. Two segments illustrate this aspect of the third theme:

“There was plenty of space for personal opinions and discussions. Psychological safety in the group was established quickly.” (Participant 2)

and

“Yes, I thought it was very well arranged for participation. The informal and two-way dialogue lowered the threshold for sharing opinions, asking questions, discussing, etc. There were some days with many guest speakers where there was occasionally a bit of a shortage of time for questions and discussion, but for the most part, it went well.”
(Participant 7)

Active participation and experience-sharing were reported as major strengths of the course by all participants, where some explicitly reported that they perceived the

classroom as a safe environment enabling constructive discussions and debates. This theme is somewhat informative of the theory-practice balance described in the second theme, though the theme of reciprocity between active participation and psychological safety was evaluated to stand on its own legs as a pattern in the material.

6. Discussion

Andragogy has significant potential to promote a learner-centered and facilitative learning environment, particularly through its operationalization of key learning assumptions. Forrest and Peterson (2006), among others, highlight the presumed relevance of andragogy in leadership and management education – a focus our paper applies to a military leadership course. While it is reasonable to argue for the educational benefits of andragogy, its practical implementation in a learning environment may not be straightforward. The following discussion of our findings sheds light on these practical considerations.

Two andragogical learning assumptions emphasize that adults need to know why they should learn and perceive themselves as being ready to learn, so that they experience the subject matter as relevant (Knowles, 1984). In the analysis, these assumptions are reflected in the first theme (i.e., Leadership Development Through a Relevant Course). The course timing was generally seen as suitable, though some students described it also would have been relevant earlier in their careers. This opinion is understandable, as components like experience-sharing and leadership theory discussions hold value for junior leaders as well. A potential strategy to enhance the course's relevance to participants' career stages is to place greater emphasis on the future challenges they will face as they transition into higher leadership positions. For example, focusing more on the growth potential of what Rittel and Weber (1973) termed 'wicked' problems – challenges that are inherently unpredictable – could be beneficial. A case in point is managing a joint force operation with unforeseeable ripple effects. Grint (2010) suggests that straightforward management is suited to mundane, predictable problems (sometimes called 'tamed'), whereas wicked challenges require an adaptive leadership style centered on engaging others through questioning to achieve nuanced understanding and suggestions for solutions. This approach, however, may be difficult for leaders accustomed to a command-driven, directive style. Engaging students in discussions and explorations of such intricacies in higher leadership could strengthen their perception of the course's relevance. Combined with a continued emphasis on leadership development, which our participants value, this approach would likely optimize the andragogical framework.

In somewhat contrast to the reasoning above, the andragogical assumption of orientation to learning suggests that adults prefer a problem-centered focus, promoting immediate application over future use. Both Forrest and Peterson (2006) and McCauley *et al.* (2017) stress the importance of aligning course material with real-life leadership challenges, though acknowledging that many organizational problems do not have single solutions. To address the orientation to learning assumption, we emphasized the theory-

practice harmony in our questionnaire. In the second theme (i.e., Balancing Theory and Practice), even though many students valued a practical leadership focus, some also expressed a desire for more theory, likely tied to the course's curriculum and final exam requirements. However, this finding may also reflect a genuine interest in theory, as the complexities of higher leadership roles can foster nuanced views on applicable knowledge. A theory, such as that of Rittel and Weber (1973) and Grint (2010), may, therefore, be perceived as highly practical. As such, a potential caveat is perhaps becoming overly 'andragogical' and process-oriented when teaching seasoned leaders who are not necessarily educated in sound management and leadership theory. Arguably, however, the experience of orientation to learning may differ in non-exam-based programs, such as typical leadership development programs, which often focus on self-assessment tools and behavioral training, as such. Courses with dual goals of academic proficiency and personal development (e.g., self-insight into one's leadership style) may face particular challenges when balancing theory and practice, requiring instructors to be especially mindful of the learning orientation if aiming to strengthen an andragogical approach.

One of Knowles' (1980) key and most elaborated assumptions is related to adults' self-concept of being autonomous. Thus, he emphasized the importance of active participation to promote self-directedness and further autonomy in adult learners, which constitutes the assumption reflected in the third theme (i.e., Reciprocity Between Active Participation and Psychological Safety). In our findings, opportunities for active participation were generally perceived as gratifying. Some students explicitly reported a sense of psychological safety that encouraged their engagement. However, given recent research showing that such safety is vulnerable in terms of rapid changes (Fyhn *et al.*, 2024), consistently addressing safety in a learning environment is relevant for reinforcing learners' self-concept and, thus, an andragogical approach. While there are various ways to build and maintain psychological safety (Edmondson & Bransby, 2023), openly addressing misunderstandings that arise in the course setting, as well as welcoming opinions and reflections – essentially avoiding an overly 'sage on the stage' approach – seem particularly important on the part of the educator in our view.

The final and sixth assumption to be explored is motivation, which has a stronger potential to be more internal than external for adult learners compared to younger ones, according to andragogical thought (Chan, 2010). Participants in the current study generally reported strong motivation, with some linking this to their perception of the course's overall relevance and its format, which blended theory and practice – aspects addressed in the first and second themes, respectively. High motivation likely stemmed from a general appreciation of the course, bolstered by its elective nature, which naturally fostered self-selection. That said, it may be naïve to attribute all motivation and satisfaction to intrinsic factors. As the master's program, including the leadership course, serves as a de facto pathway to higher leadership roles in the defense sector (Halvorsen, 2023), external expectations likely played a role as well. Addressing motivational factors is naturally important for fostering an andragogical learning environment, particularly when external factors may impact course attendance. Equally important is nurturing

motivation throughout the course. An inner drive to learn may emerge over time if stimulating participant's curiosity, even if initial motivation is primarily external (Purwati *et al.*, 2022).

6.1 Recommendations

Our theoretical argument focused on andragogy's potential to cultivate higher-order cognitive skills and adaptability in leaders, while also strengthening mission command capacity. The empirical findings suggest that andragogical teaching can be effectively applied in military leadership courses for seasoned officers, as evidenced by overall positive findings. However, in terms of practical recommendations, it seems relevant to consider the timing of the course within one's career and the balance between theory and practice when aiming to strengthen such learner-centered teaching, particularly in courses designed for experienced leaders with a final assessment. Additionally, being mindful of psychological safety and motivational aspects were highlighted in our discussion.

Further empirical studies in mid-career professional military education could provide deeper insights into the possible benefits and challenges of adopting such a strong learner-centered educational philosophy. Beyond theoretical reasoning and participant reflections, it would be valuable to conduct evaluations examining whether andragogy influences later leadership beliefs and concrete leader behavior. Additionally, given that many educators, including the authors, may be accustomed to a lecture-based style, exploring instructors' attitudes toward andragogy in professional military education would be worthwhile. Finally, identifying valid ways to measure andragogy, an issue we address in the study's limitations, deserves further attention.

6.2 Study Limitations

This study has methodological limitations that should be acknowledged. One of them concerns the operationalization of andragogical assumptions. While we consider the face and content validity as satisfactory based on our main sources (Chan, 2010; Knowles, 1980, 1984), including the quantitative measure developed by Holton III *et al.* (2009), the ability of the questionnaire to elicit andragogical experiences remains otherwise unexamined. Given the broad scope of andragogy, future studies may benefit from employing diverse data collection methods, such as physical interviews, focus groups, or quantitative measures.

Another limitation is the reasonably constrained generalizability of the empirical findings due to the small number of study participants, a self-selected sample, and a qualitative approach. A specific challenge lies in the expected homogeneity of the sample (i.e., seasoned officers). However, we note that the inclusion of personality testing and team role mapping in the course revealed diversity in Big Five personality traits and preferred team roles, even within such a small group. While it is reasonable to argue for the generalizability of these findings to higher education courses in the military realm (e.g., other Command and Staff Colleges), the students in our course may also share similarities with experienced professionals pursuing master's degrees in business

administration. Generalizability to other contexts, such as bachelor-level leadership students or non-exam-based leadership development programs, even in the military, should be approached with caution.

Lastly, the reflexive thematic analysis used in this study relies on the authors' interpretation of the students' reports. While we followed Braun and Clarke's (2006) guidelines, subjective processes inevitably influenced the coding and final theme selection. However, the reflexive approach in thematic analysis recognizes the research context and the researchers' active interpretive role (Byrne, 2022; Finlay, 2002). For instance, other researchers inspecting the same data set could conclude with other codes and thus a different scope and content of themes. A possible strength in this regard, though, was the procedure of letting the first and second authors work analytically, while later discussing the process and finalizing results with the third author through a peer debriefing (Nowell *et al.*, 2017).

7. Conclusion

This study has explored the theoretical relevance of andragogy in military leadership education, complemented by selective empirical insights into how seasoned learners perceive this teaching philosophy. The intent was not to discount teacher-centered pedagogical methods, such as lecture-based instruction, but to underscore the presumed advantages of the learner-centered framework that andragogy offers, particularly through its operationalized learning assumptions. While valid critiques have been raised regarding Knowles' understanding of andragogy, we value its efficient communication of quite advanced yet accessible reasons for adopting a more learner-centered approach. The framework, as we understand it, provides an overarching concept that empowers educators to creatively explore methods for engaging learners. A particularly compelling aspect is andragogy's apparent alignment with preparing mid-level leaders for the complex, higher-level leadership challenges they may encounter. Our goal as educators in the military (and law enforcement) is ultimately to address this complexity, supporting future high-ranking leaders in their scholarly and leadership development. We find andragogy to be a valuable approach in this context and worthy of continued empirical exploration.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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Appendix

Learning objectives and outcomes for the course “Military Leader and Management Development in Theory and Practice” at the Norwegian Defence Command and Staff College:

Knowledge

After completing the course, the student should:

- Have in-depth knowledge of key theories, methodological approaches, models, and developments underpinning effective leadership and management development.
- Possess a deep understanding of the dynamics of leadership and management development, including evaluating new theoretical and empirical contributions in the field and arguing for their application in development work and personal practice.
- Have extensive knowledge of the Norwegian Armed Forces' (overarching) leadership and management development processes.

Skills

After completing the course, the student should:

- Be able to analyze issues related to leadership and management development within the defense sector from individual, group, and organizational perspectives.
- Be able to apply and critically evaluate the Norwegian Armed Forces' unique tools, as well as other suitable tools, for leadership and management development.
- Be capable of identifying, analyzing, and discussing prominent dilemmas and challenges associated with leadership and management development in the Armed Forces from individual, group, and organizational perspectives.

General Competence

After completing the course, the student should be able to:

- Contribute to fostering a culture of learning and development within their own unit and the Armed Forces.
- Promote enhanced collaboration and a shared professional leadership culture across branches of the Armed Forces.
- Support the development of management processes, including communication and collaboration.

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