INTERNATIONAL JOURNAL OF EDUCATION AND INFORMATION TECHNOLOGIES
DOI: 10.46300/9109.2026.20.3 Volume 20, 2026

The Impact of an AI Course on Hellenic Naval Academy Students' Attitudes towards AI

N. Mastorakis[1], S. Kallou[2], D. Papachristos[1]
[1]Hellenic Naval Academy,
Piraeus,
Greece

[2]National Kapodestrian University of Athens
Piraeus,
Greece

Received: March 17, 2025. Revised: June 21, 2025. Accepted: July 13, 2025. Available online: December 19, 2025.

Abstract: AI is a key tool revolutionizing today's society, market, and economy. Its applications are everywhere. In such an environment, investigating the attitudes of Hellenic Naval Academy (HNA) students towards AI is a challenge, particularly concerning its acceptance in the military sector and education. This study used a tool (questionnaire) to investigate attitudes and revealed important findings by using the pre-test & post-test procedure.

Keywords—AI, AI attitude, Navy, Education

I. Introduction

People's general attitudes towards Artificial Intelligence (AI) are likely to play a crucial role in their acceptance of AI. An individual's tendency to respond in a particular way to a given stimulus falls under the concept of attitude. Attitudes represent a "relatively stable organization of beliefs centered around an object or situation, which predisposes a person to react in a preferred manner." They encompass affective (emotional), cognitive (thought-based), and behavioral components. However, researching attitudes presents a well-documented challenge in social sciences: since attitudes are abstract constructs, they cannot be measured directly. Instead, they must be quantified using reliable and valid psychometric methods.

When studying attitudes toward artificial intelligence (AI), an additional complication arises—AI is not a static entity. On the contrary, it is continuously evolving, with new applications emerging at a rapid pace. As a result, assessing attitudes toward AI requires a flexible measurement tool that can adapt to the field's rapid advancements. Thus, various tools were developed.

The primary objective of this study was to examine HNA cadets' attitudes toward AI applications in general (benefits, motivations, emotions), specifically focusing on its implementation in the Hellenic Navy and their military training. Additionally, it investigated potential attitude shifts across these domains following the third-year AI course in the academy's curriculum. Thus, the paper's structure comprises three main sections:

- Theoretical Framework: covering research-related background (AI fundamentals, educational applications, military applications and training, AI attitude measurement scales)
- Research Methodology: detailing study design (research instruments, sampling techniques, etc.)
- Findings Analysis: presenting and interpreting the research results.

II. Background

A. AI and GenAI

Over the past few decades, Artificial Intelligence (AI) has become a cornerstone of research and innovation in numerous fields. Advances in data availability, computing power, and machine learning techniques have significantly enhanced AI's efficiency and global adoption, particularly in the last twenty years. Consequently, AI has integrated into everyday operations across multiple industries. Some key applications of this technology encompass voice recognition, biometric security, digital mapping, GPS navigation, traffic management, logistics, industrial automation, supply chain optimization, data analytics, and personalized digital advertising, [1]. Given its widespread utility, it is unsurprising that AI also plays a critical and expanding role in military operations, [2].

AI is an overarching term that includes diverse algorithms capable of replicating human-like intelligence (Fig.1). Such systems can process natural language, detect patterns, solve complex problems, and adapt based on accumulated data, [3], [4]. The first generation of AI, exemplified by rule-based expert systems and knowledge bases, was designed to aid users and enterprises in decision-making processes. Machine learning (ML), a branch of artificial intelligence, focuses on creating algorithms that can independently perform tasks by learning from data rather than following explicit programming instructions. Within ML, various learning methods exist, each suited to different types of data and objectives, like as, Supervised learning (i.e. algorithms are trained on labeled datasets for classification), unsupervised learning (i.e., discovering hidden structures or patterns within unlabeled data) and Reinforcement learning (AI training methodology where systems master decision-making through environmental interaction by identifying and reinforcing actions that lead to the most substantial

rewards over multiple iteration), [5], [6]. As a powerful extension of machine learning, deep learning utilizes hierarchical neural networks to automatically discover and model intricate data patterns. The technology's multi-layered design enables progressive learning of features at different abstraction levels, resulting in enhanced performance across applications. Its capability spans the full spectrum of data complexity, from basic textual information to the most sophisticated visual and auditory media formats, [7]. The Neural networks (NN) represent computing architectures that mimic the human nervous system, employing interconnected artificial neuron layers to enable machine-based learning and pattern recognition, [8]. Finally, a modern subcategory of AI is generative artificial intelligence, also known as Generative AI (GenAI). GenAI differs from traditional AI because it is not limited to pattern analysis, but can produce new content—such as text, images, audio, and video—that resembles the data it was trained on. This is achieved through advanced models, such as [9]:

- Large Language Models (LLMs), e.g., ChatGPT, are trained on vast text databases.
- Generative Adversarial Networks (GANs) function as binary systems for generating and detecting 'fake' data.
- Variational Autoencoders (VAEs) are used for audio and image synthesis or data denoising.

The application of GenAI has revolutionized many fields, from customer service to the production of artistic content, sparking discussions about the potential of Artificial General Intelligence (AGI), [9].

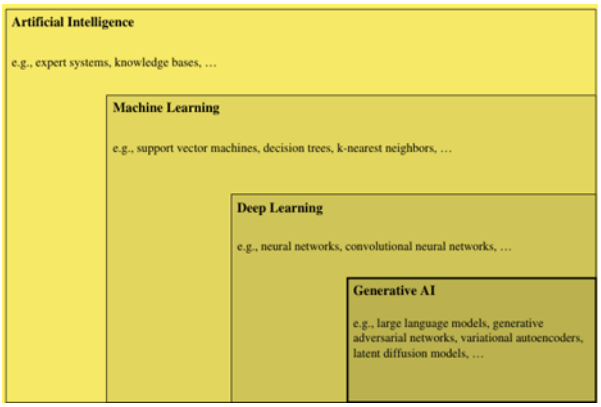

Fig. 1. Categories of AI concepts.
Source: [9]

B. Applications in Education

AI is reshaping the world as we have known it for the past decades, especially in recent years through Gen AI. Contemporary education faces numerous unmet challenges in enhancing teaching and learning methodologies. Teachers are increasingly turning to technological solutions that promise safety, efficacy, and scalability. As AI becomes ubiquitous in daily life - from smart home assistants to writing aids and navigation apps - educators naturally question whether these rapid technological advancements could benefit classrooms. Many are already experimenting with newly available AI applications (i.e., Gen AI Tools) in educational contexts, [10]. While recognizing AI's potential, educators remain cautious of emerging challenges. These powerful tools introduce data privacy vulnerabilities and security concerns. Educators observe how AI systems can generate inaccurate or unsuitable content, potentially reinforcing harmful biases through their automated processes. New forms of academic dishonesty have emerged, as students may present AI-generated work as their own. Educators note the absence of AI's ability to identify crucial learning opportunities that skilled educators naturally recognize. Questions persist about the fairness of algorithmic recommendations in education. The educational community must collectively navigate this landscape, maximizing benefits for learning while safeguarding against the risks inherent in AI adoption.

The evolution of AI in education has unfolded over many years, marked by groundbreaking developments that have reshaped pedagogical approaches (Table I). This historical progression demonstrates a persistent commitment to leveraging smart technologies to improve learning experiences and academic achievement, [11], [12].

TABLE I. AI EVOLUTION IN EDUCATION

Seq.	AI History in Education	
	AI History	***Explanation***
I	Early Beginnings	Potential of computers to simulate human intelligence in educational practice
II	Intelligent Tutorial System (ITS)	Applying AI technologies to create tailored educational content and personalized guidance for learners
III	Expert Systems and Knowledge-Based Systems	Applying ES systems (e.g., MYCIN) to educational practice (e.g., Medical faculty)
IV	Cognitive Modeling and Learning Sciences	AI applications/tools and cognitive psychology
V	Machine Learning and Data Analytics	ML applications and data analytics in Education
VI	Modern Applications and Innovations (Gen AI tools)	Innovations in AI domains. Education systems powered by AI, adaptive tutoring programs, chatbot teaching assistants, etc.

Source: created by the authors

However, the integration of GenAI in education radically transforms the learning process, enabling personalized experiences and intelligent support for educators. Furthermore, in more advanced models, such as ExtendAI studied in [13], AI doesn't merely suggest solutions but actively participates in the student's cognitive process, extending their rational argumentation. Nowadays, various Gen AI tools are available in the market, which have been categorized based on what they create. On the other hand, there are challenges. Excessive dependence on AI tools can undermine students' basic cognitive skills. Issues such as personal data leakage, the reproduction of biases, and the potential substitution of human critical thinking make the development of digital ethics policies and pedagogical competence necessary, [14], [15].

C. Applications in the Military Area & Education

The integration of AI and GenAI in the military sector is evolving rapidly to enhance operational effectiveness, decision-making, and battlefield dominance. For example, in the military domain, AI Decision Support Systems (DSS) are used to collect, analyze, and manage large and complex datasets gathered from diverse sources such as sensors and unmanned vehicles. The goal is to accelerate the military decision-making cycle, commonly referred to as the OODA (Observe-Orient-Decide-Act) loop, [16].

However, the integration of AI in the military sector is accompanied by significant challenges, [2]:

- Reliability and Security: AI systems are vulnerable to technological failures, cyberattacks, and adversarial attacks, where small, imperceptible changes in input data can lead to erroneous results.
- Bias: AI may reproduce biases present in its training data, leading to flawed decisions or misidentification of targets, with the risk of escalating a conflict.
- Lack of Transparency (Black Box): Complex AI models are often "black boxes," making it difficult for humans to understand why the system made a specific recommendation. This reduces the ability to properly evaluate outcomes and maintain control.

Finally, AI is utilized in nearly every military application, and increased research and development support from military research agencies to develop new and advanced AI technologies is anticipated to drive the widespread adoption of AI-driven systems in the military. Additionally, as technology advances, the adoption of AI systems in military education has garnered considerable attention. These intelligent solutions demonstrate a promising ability to enhance training quality by delivering authentic combat scenarios, instantaneous data interpretation, and tailored learning pathways, [15].

D. AI Attitudes, Scales, and Measures

Nowadays, artificial intelligence (AI) and information technology (IT) & Internet are becoming our new reality. The rapid evolution of AI (especially Gen AI) requires a dynamic approach to measuring attitudes. Traditional models of technology acceptance often prove inadequate because AI adoption is frequently not a matter of individual consumer choice, but rather a decision imposed by larger organizations or government agencies.

Attitudes toward AI, like other psychological constructs, encompass both affective and cognitive components, as well as behavioral elements. However, due to the rapid evolution and abstract nature of AI technologies, such attitudes may reflect uncertainty, ambivalence, and contextual variability. These complexities necessitate the development of specialized instruments capable of capturing multidimensional, dynamic responses.

Conceptualized as evaluative judgments about specific targets (including AI), attitudes generally demonstrate temporal stability while comprising affective, cognitive, and behavioral elements. For AI attitude assessment, instruments must capture three key aspects: emotional valence (e.g., liking/disliking), cognitive appraisals (e.g., perceived impacts on productivity), and usage behaviors (e.g., adoption rates). While most attitude objects remain stable, enabling the longitudinal use of scales, the dynamic nature of AI technologies and their public perception necessitate adaptable measurement approaches. An optimal AI attitude scale should permit iterative updates to reflect technological advancements without necessitating complete revalidation, allowing researchers to incorporate new items that capture emerging AI applications while maintaining core psychometric properties, [17], [18].

Recent research has seen limited development of specialized instruments for evaluating AI attitudes. Among the notable contributions, (i.e. [19]) created the General Attitudes toward Artificial Intelligence Scale (GAAIS), comprising 20 items organized into two distinct dimensions (favorable and unfavorable perceptions of AI). Psychometric evaluations demonstrated that the General Attitudes toward Artificial Intelligence Scale (GAAIS) is a robust measurement tool, effectively assessing both favorable and unfavorable dimensions of AI perceptions. The scale's bifactorial structure received empirical support through confirmatory factor analyses conducted on two separate large-scale samples, [19], [20]. However, there are various tools for measuring AI attitudes (e.g., ATAI, AIAS-4, ATTARI-12).

III. Method

This study examines the impact of participation in a university-level course on Artificial Intelligence (AI) on cadets' attitudes and usage of AI technologies. The research was conducted at the Hellenic Naval Academy (HNA), focusing on changes in student attitudes (perceptions) and behavior *before* and *after* a 13-week AI course that included lectures, laboratory sessions, and assessment through exams and coursework (The Educational context based Table I). Consequently, this Research is a *quantitative, longitudinal study* using a pre-test/post-test design. This design is ideal for evaluating the course's impact on students' attitudes by measuring the same variables in the same group of people at two different times. The AI course included a theoretical part that began with the origins of AI and progressed to Gen AI and its application at the laboratory level. It also included work assignments, an intermediate knowledge test, and a final exam. The course is taught in the third year of the HNA, in the specialties of Combatants and Engineers. Participation was voluntary and anonymous, with approval from the School administration and consent from the students.

A. Participants and Data Collection

The sample consists of 34 students (Phase A) and 44 students (Phase B) from a total of 50 third-year students of the HNA (those who agreed to participate did so of their own free will). Essentially, the sampling is *simple random*. It is sampling in which all possible samples of the population, of size (N=50), have the same probability of being selected. This *probability (P)* is:

$$\textit{Phase A: } 1/\frac{50}{34} \quad (1)$$

$$Phase\ B:\ 1\ /\ \frac{50}{44} \quad (2)$$

Specifically, data collection was performed in two phases: at the start of the semester (*pre-test, Phase A) and at the end of the semester (post-test, Phase B*). It took place during the academic year 2024-25, specifically from January 2025 to May 2025. The first measurement was taken in mid-January 2025, and the second measurement was taken in the last week of May 2025. In summary, the research sample is very small and therefore does not constitute a basis for generalizing the findings. However, it reveals trends and constitutes a first attempt to capture the attitudes of future military professionals regarding the use and application of AI.

B. Research Tool

We used an adapted version of the General Attitudes towards Artificial Intelligence Scale (GAAIS). The GAAIS is a scale developed to measure general attitudes toward AI, comprising both positive and negative subscales. The questionnaire also includes additional questions about military applications of AI and its usefulness in Naval education, which is a valuable addition to a pre-validated tool. Specifically, the tool GAAIS was used, [19], the first two sections of which concerned positive and negative statements (16 positive statements & 16 negative statements), adapted for HNA students. The positive statements contain opportunities, benefits, & positive emotions, while negative statements contain concerns & negative emotions. There were also 5 positive and 5 negative statements on the military use of AI, as well as 5 statements on its use in the official Naval Education curriculum. Overall, the tool consisted of two parts: the respondent's profile with five (5) demographic questions, and the research section with 47 statements.

C. Research Questions

The questions examine the potential shift in students' attitudes toward AI following the course.

- *Research Question 1 (RQ1):* Will the teaching of the Artificial Intelligence course lead to a more positive attitude among students toward AI?
- *Research Question 2 (RQ2):* Will the teaching of the course lead to a less negative attitude among students toward AI?
- *Research Question 3* **(***RQ3***):** Did the course influence students' views regarding military applications of AI, leading to more positive attitudes about its usefulness and potential in the Navy?
- *Research Question 4* **(***RQ4***):** Will the perceived necessity of AI education in the military sector increase, including the need for AI courses and GPT tools?

D. Data Analysis

Initially, a descriptive analysis was conducted on the demographic data of the sample (gender, age, level of computer use, frequency of GPT tool usage) as well as the means, standard deviations, and frequency distributions for each questionnaire statement, both for *Phase A (pre-test)* and *Phase B (post-test***)**. The small size of the two samples (N < 50) led to the use of non-parametric tests (e.g**.,** Kruskal-Wallis**)**. Additionally, for each section of the questionnaire (*positive scale, negative scale, GAAIS, positive scale, negative scale AIinNavy, AIinNavy_Edu*), an *index (I)* was designed as a *composite mean*. Specifically, using the following formulation (calculated empirically as the sum of responses according to the coding, divided by the number of questions in each section):

$$I = [\ \textstyle\sum_i^N Qi\ ]\ /\ N \quad (3)$$

Furthermore, the reliability analysis confirmed the *high reliability* (≥ 8) of the research tool (Table II):

TABLE II. RELIABILITY ANALYSIS

Phases	**Cronbach's Alpha**	
	A	***B***
Res. Tool (47 items)	,798	,945

Source: created by the authors

IV. RESULTS

A. Profile

The following table (Table III) shows the demographic characteristics of the two phases of participants in this study:

TABLE III. SAMPLE PROFILE

Elements	**Phase A (pre-test)**		
	Range	***Mean***	***StDEV***
Age	19-25	20.94	1.229
		N	***%***
Gender	Male	29	85.3
	Female	5	14.7
Nationality	Greece	31	91.2
	Senegale	1	2.9
	Cyprus	2	5.9
Elements	**Phase B (post-test)**		
	Range	***Mean***	***StDEV***
Age	19-25	20.27	1.353
		N	***%***
Gender	Male	31	70.5
	Female	13	29.5
Nationality	Greece	43	97.7
	Senegale	1	2.3

Source: created by the authors

B. Technology Using

The following figures (Fig.2 and Fig. 3) show the usage level of the Technology of the two phases of participants in this study:

- In phase B, there is an increase in the use of GPT tools every week, while there is a significant drop in daily use (GPT tools).
- No significant change was observed in the level of computer use.

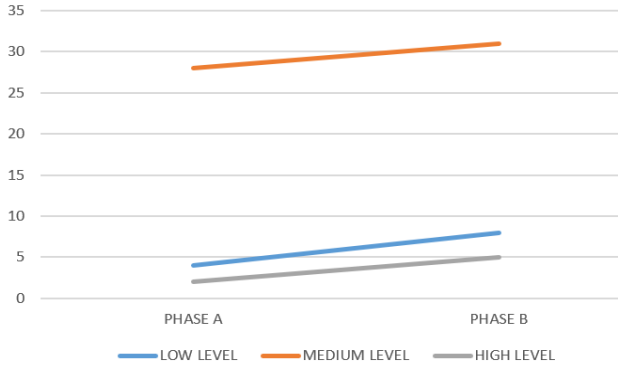

Fig.2. Level of Computer use by participants (Phase A+B)
Source: created by the authors

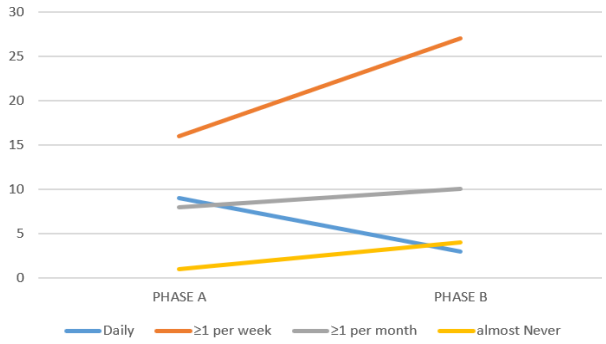

Fig.3. Level of GPT Tools used by participants (Phase A+B)
Source: created by the authors

C. AI Attitudes Analysis

The attitudes of students toward artificial intelligence before and after the course at HNA are shown in the following table. There is a similar increase in both the positive (+6%) and negative (+6.2 %) subscales (based on GAAIS) after attending the artificial intelligence course. There is essentially no differentiation (Table IV).

TABLE IV. AI ATTITUDES ANALYSIS

Index	AI Attitude		
	Phase A	***Phase B***	***Trend (%)***
GAAIS Positive Index	3,38	3,68	+6
GAAIS Negative Index	3,1	3,41	*+6,2*

Source: created by the authors

D. AI in the Navy (Military field) Attitudes Analysis

The AI in Military Field (Navy) attitudes of students before and after the course at HNA are shown in the following table (Table V). There is an increase in both the positive and negative subscales (Usefulness and capabilities of AI in the Navy) after attending the artificial intelligence course. There is essentially a differentiation for the negative subscale (↑15,6%).

TABLE V. AI IN NAVY ATTITUDES ANALYSIS

Index	AI in Navy Attitude		
	Phase A	***Phase B***	***Trend (%)***
AI in Navy Positive Index	3,67	3,75	+1,6
AI in Navy Negative Index	2,59	3,37	*+15,6*

E. Perceived Need for Training in AI in the Military Sector

The perceived Need for training in AI in the Military Sector (Navy) of students before and after the course at HNA is shown in the following table (Table VI). There is an increase after attending the artificial intelligence course (↑1,4%).

TABLE VI. AI IN NAVY_EDU ATTITUDES ANALYSIS

Index	AI in Navy_Education Attitude		
	Phase A	***Phase B***	***Trend (%)***
AI in Navy Education Index	3,78	3,85	+1,4

Source: created by the authors

F. Impact of Profile Parameters

In the first phase (Phase A), an effect of the frequency of use of GPT tools on the perceived necessity of AI training for the Hellenic Armed Forces (Sig.: .041) and more broadly in the military sector was found, as shown in the following tables (Table VII, Table VIII).

TABLE VII. PHASE A – HYPOTHESIS TEST SUMMARY [SPSS]

Null Hypothesis	Hypothesis Test Summary		
	Test	***Sig.***	***Decision***
The distribution of **AIinNavy_PosScale** is the same across categories of **Level using Comp**	Independent-Samples *Kruskal-Wallis Test*	,023	***Reject the null hypothesis***

Source: created by the authors

TABLE VIII. PHASE A -VARIABLE ANALYSIS

Phase A	
Freq GPT Tools	***AIinNavy_Edu***
Daily	1,73
≥1 per Week	2,26
≥1 per Month	2,5
Rarely	3,2

Source: created by the authors

In the second phase, an effect of the frequency of use of GPT tools was found on the positive subscale (Sig.: ,024) and the negative subscale (Sig.: ,013) of students' attitudes toward the use of AI in the Navy, as shown in the following tables. Also, we found an effect of level using the Computer and the positive subscale of students' attitudes toward the use of AI in the Navy, as shown in the following tables too (Table IX, Table X).

TABLE IX. PHASE B – HYPOTHESIS TEST SUMMARY [SPPS]

Null Hypothesis	Hypothesis Test Summary		
	Test	*Sig.*	*Decision*
The distribution of **AIinNavy_PosScale** is the same across categories of **Level using Comp**	Independent-Samples *Kruskal-Wallis Test*	,023	***Reject the null hypothesis***
The distribution of **AIinNavy_PosScale** is the same across categories of **Freq using GPT Tools.**	Independent-Samples *Kruskal-Wallis Test*	,024	***Reject the null hypothesis***
The distribution of **AIinNavy_NegScale** is the same across categories of **Freq using GPT Tools.**	Independent-Samples *Kruskal-Wallis Test*	,013	***Reject the null hypothesis***

Source: created by the authors

TABLE X. PHASE B - VARIABLES ANALYSIS

Phase B		
Freq GPT Tools	***AIinNavy_Pos Scale***	***AIinNavy_Neg Scale***
Daily	2,2	3,2
≥1 per Week	2,103	2,31
≥1 per Month	2,38	3,1
Almost Never	3,0	3,2
Level Using Comp	***AIinNavy_PosScale***	
Low Level	2,02	
Medium Level	2,2	
High Level	2,92	

Source: created by the authors

V. DISCUSSION AND CONCLUSIONS

Young individuals, because of their increased mental flexibility and adaptability, tend to be more comfortable with new technologies. The aim of this paper was, first and foremost, to examine HNA students' attitudes toward the general use of AI (benefits, motivations, emotions), as well as its application in the Hellenic Navy and their military training. Also, whether there will be an expected change in students' attitudes as a result of attending the AI course.

Regarding the first research question (*RQ1*), it was found that teaching the Artificial Intelligence course led to a more positive attitude (a slight increase of 6%) among students toward AI. This change was evident in the mean score of the positive attitudes subscale of the GAAIS. Concerning the second question (*RQ2*), there was no significant reduction in students' negative attitudes toward AI (increase of 6.2%).

As for the third research question (*RQ3*), the course equally influenced students' views (both positive and negative dimensions) regarding military applications of AI. However, it ultimately led to more positive attitudes (compared to negative ones) concerning its usefulness and potential in the Hellenic Navy. Although there was an increase in negative attitudes (15.6%) after the course, suggesting that, as trainees learned more about AI, its potential, implications, and ethical dilemmas, a shift in the climate towards the negative occurred. Finally, regarding the fourth research question (*RQ4*), there was a very slight increase in the perceived necessity of AI training for the military sector, including the need for AI courses and GPT tools. At this point, it is worth emphasizing that the daily use of the GPT tools by the respondents decreased, while their weekly use increased after the course. Possibly, this change indicates a more "structured" use of the tools after the training in them, during the course, which highlighted their benefits and weaknesses. From this, it can be concluded that the trainees appreciate the value of these tools more and are requesting more comprehensive training in them to utilize them more effectively in the military field.

The findings suggest that improved course design should be pursued, with increased laboratory practice and a greater emphasis on AI applications in the military sector. Furthermore, as this was the first study of its kind in Greece at military higher education institutions, more extensive research should be pursued in terms of sample size, examination of other parameters (e.g., demographic characteristics), and the introduction of other methodological techniques (e.g., qualitative research). In particular, as our sample was relatively small, for reasons related to available resources, future research should be directed at larger samples of military professionals, but also to specialize between categories of professionals (e.g., Infantry, aviation, navy) and between hierarchies (e.g., senior officers, junior officers, non-commissioned officers, professional soldiers). In addition, it can be directed comparatively, depending on the nature of their engagement in the military sector (e.g., pilots, ship captains, tank operators).

REFERENCES

[1] S. Das, A. Dey, A. Pal, and N. Roy, "Applications of artificial intelligence in machine learning: review and prospect," *International Journal of Computer Application,* vol. 115, no. 9, pp. 31–41, 2015. doi: 10.5120/20182-2402.

[2] A.B. Rashid, A.K. Kausik, and M. H. Bappy, "Artificial Intelligence in the Military: An Overview of the Capabilities, Applications, and Challenges", *International Journal of Intelligent Systems,* Volume 2023, Article ID 8676366, pp.1-31. https://doi.org/10.1155/2023/8676366.

[3] D. Castelvecchi, "Can we open the black box of AI?", Nature, 538 (7623), 2016, pp. 20–23. doi: 10.1038/538020a.

[4] P.H. Winston, *Artificial intelligence* (3 ed., reprinted with corr), USA: Addison-Wesley, 1993. ISBN: 0-201-53377-4.

[5] E. Brynjolfsson and T. Mitchell, "What can machine learning do? Workforce implications", *Science,* 358(6370), 2017, pp. 1530–1534. doi: 10.1126/science.aap8062.

[6] N. Kühl, M. Schemmer, M. Goutier, and G. Satzger, G. "Artificial intelligence and machine learning", *Electronic Markets,* 32(4), 2022, pp. 2235–2244. doi: 10.1007/s12525-022-00598-0.

[7] Y. LeCun, Y. Bengio, and G. Hinton, "Deep learning", *Nature,* 521(7553), 2015, pp.436–444. doi: 10.1038/nature14539.

[8] I. Goodfellow, Y., Bengio, Y., and Courville, A. *Deep Learning.* USA: The MIT Press, 2016. ISBN: 9780262035613.

[9] L. Banh and G. Strobel, "Generative artificial intelligence", *Electronic Markets,* 33(63), 2023. doi: 10.1007/s12525-023-00680-1.

[10] WAF-Walton Family Foundation, "Teachers and students embrace ChatGPT for education", 2023, [Online]. https://www.waltonfamilyfoundation.org/learning/teachers-and-students-embrace-chatgpt-for-education (Accessed Date: March 4, 2025).

[11] X. Chen, D. Zou, H. Xie, G. Cheng, G., and C. Liu, C. "Two Decades of Artificial Intelligence in Education: Contributors, Collaborations, Research Topics, Challenges, and Future Directions", *Educational Technology & Society,* 25(1), 2022, pp.28–47. EISSN-1436-4522.

[12] M. Farahani and G. Ghasemi, "Artificial Intelligence in education: A comprehensive study", *Forum for Education Studies*, 2, 2024. doi: 10.59400/fes.v2i3.1379.

[13] L. Reicherts, Z.T. Zhang, E. von Oswald, Y. Liu, Y. Rogers, and M. Hassib, "AI, Help Me Think—but for Myself: Assisting People in Complex Decision-Making by Providing Different Kinds of Cognitive Support", C*HI Conference on Human Factors in Computing Systems* (CHI '25), April 26-May 1, 2025, Yokohama. https://doi.org/10.1145/3706598.3713295.

[14] U. Mittal, S. Siva, V. Chamola, and D. Sangwan, "A Comprehensive Review on Generative AI for Education", *IEEE Access,* 2024, pp. 1-28. doi: 10.1109/ACCESS.2024.3468368.

[15] H. Putra, and E. Budi, "The Role of Artificial Intelligence in Military Education: A Double-Edged Sword", *Indonesian Journal of Educational Science and Technology,* 3(3), 2024, pp. 167–174. doi: 10.55927/nurture.v3i3.12366.

[16] B. Johnson, J.M. Green, G. Burns, T. Collier, R. Cornish, K. Curley, A. Freeman, and J. Spear, "Mapping Artificial Intelligence to the Naval Tactical Kill Chain", *Technical Paper, Naval Engineers Journal,* March 2023, No. 135-1, pp. 155-167.

[17] M. Hering, N. Neef, S. Zabel, and S. Otto, General Artificial Intelligence Attitude (GAIA) Item Pool – How to Measure Attitudes Toward an Ever-Changing Object, 2024. https://doi.org/10.31235/osf.io/3c8sr.

[18] M. Rokeach, A Theory of Organization and Change Within Value-Attitude Systems, *Journal of Social Issues*, 24, 1, 1968, pp. 13–33. https://doi.org/10.1111/j.1540-4560.1968.tb01466.x.

[19] A. Schepman, and P. Rodway, "Initial validation of the general attitudes towards Artificial Intelligence Scale", *Computers in Human Behavior Reports*, 1 (2020) 100014. https://doi.org/10.1016/j.chbr.2020.100014.

[20] Schepman, and P. Rodway, "The General Attitudes towards Artificial Intelligence Scale (GAAIS): Confirmatory Validation and Associations with Personality, Corporate Distrust, and General Trust", *International Journal of Human–Computer Interaction,* 2022. https://doi.org/10.1080/10447318.2022.2085400.

Contribution of individual authors to the creation of a scientific article (ghostwriting policy)

We confirm that all Authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Sources of funding for research presented in a scientific article or scientific article itself

No funding was received for conducting this study.

Conflict of Interest

The authors have no conflict of interest to declare that is relevant to the content of this article.

Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0
https://creativecommons.org/licenses/by/4.0/deed.en_US