Northeast Asian Studies

ISSN 2423-8775

International journal of military affairs

Vol. 10 No. 0

J-INSTITUTE

2025 Vol.10 No.0, 1-11 Received: 2025/08/29, Peer-reviewed: 2025/09/30, Accepted: 2025/10/25, Published: 2025/12/30

International Journal of Military Affairs

Publisher: J-INSTITUTE
ISSN: 2423-8775

Website: j-institute.org

Corresponding author*
E-mail: yyun0916@naver.com

DOI Address:
dx.doi.org/10.22471/military.2025.10.0.01

Generation Z's Perception of the Stress of Beginner Executives Factor Analysis and Support Expansion Plan

Junhyeok Seo[1]

Sangmyung University, Ph. D, Republic of Korea

Jiwon Yun[2*]

Sangmyung University, Associate Professor, Republic of Korea

Abstract

Purpose: *The main purpose of this paper is to analyze major stress factors that should be supplemented in order for Generation Z to expand their support as beginner executives, and based on this, consider measures that the Korean military should supplement.*

Method: *The main research analysis targets and research methods were limited to Gen Z's unenrolled college students nationwide, so a survey and SPSS analysis were used for unenrolled college students in Gangwon-do, which is a military unit concentrated area and a border area.*

Results: *Based on the analysis of major stress factors, in this article is to derive the following measures to improve the Korean military to expand support for beginner executives for Generation Z. First, it is the most important to increase the remuneration of beginner executives. Generation Z judged that beginner executives were paid less than other government and social organizations with the same working conditions. Second, it is considered an important value for military organizations to ensure growth conditions and prepare for the creation of beginner executives. Third, preventive measures should be guaranteed for command measures that are out of the regulations of the commander. Fourth, measures to reduce the responsibilities and obligations of beginner executives must be steadily sought.*

Conclusion: *There has been no significant difference from the stressors and improvement measures of beginner executives that have been raised in our military, but it has become clear that it is urgent to supplement the system and come up with measures to revitalize the support of beginner executives of Generation Z and make them a rewarding service. The government should focus on improving and supplementing the working and work environment of beginner executives in order to foster strong national security and strong military development in the era of ultra-low fertility, and to build an early AI-based complex system.*

Keywords: ***Generation Z, Analysis of Stressors, Improvement of Service Conditions for Beginner Executives, Realization of Conservatives, Development of Strong Forces***

1. Introduction

In general, the dictionary definition of "beginner executives" refers to inexperienced military officers. They also are company-grade officers ranging from staff sergeants to captains who serve in units below the battalion level specified by the Military Leadership Level Classification. These officers serve mainly as commanders (commanding supervisors) as well as staff officers. Non-commissioned officers are responsible for small unit combat command and the training of soldiers. Beginner executives, regardless of rank, should be experts in their duties and lead by example as role models for those they lead. Furthermore, they should support the lower levels of the military pyramid, while maintaining the unit's combat power and upholding military traditions. As leaders of spearhead units to achieve superiority over an opponent on the battlefield,

*This paper is a revised and expanded version of the first author, Seo Junhyeok's 2024 doctoral thesis from Sangmyung University, "A Study on Improving Service Environment and Expanding Support for Junior Army Officers - Focusing on the Perception of MZ Generation in Gangwon Province.

they should also take the responsibility of the operation and management of combat equipment to ensure their units have full combat capabilities. And consequently, beginner executives are exposed to various stressors in the process of achieving the various missions described above. This is the primary reason why Generation Z avoid military officer roles.

A review of domestic and overseas research on this topic is as follows. Major domestic studies on stress during military service are as follows: Shim Jaegu, Yang Jiin, et al. (2021) suggested that each military unit should have a garden to help alleviate stress by providing soldiers with a space for privacy, physical activity and social interaction[1]. Lee Ahyoung, Lee Haewoo, et al. (2018) analyzed the stress, depressive symptoms and social relationships of soldiers with a history of suicide-related behaviors[2]. Seol Jeonghoon, Park Soohyun, et al. (2015) conducted research on navy soldiers (not army soldiers) and found a significant correlation between military stress, cognitive emotion regulation stratagems and mental health tissues[3]. Victoria, Matthew, et al. (2007) argued that soldiers and beginner executives who experience stress in the military are often reluctant to seek help due to the impact of stigma and thus fail to resolve situation [4]. Andrew, Richard, et al. (2022) emphasized the importance of cognitive resilience for beginner executives facing extreme psychological stress because it helps them maintain complex cognitive functions[5]. Marzabady, Salimi, et al. (2005) analyzed the impact of job stress on job satisfaction among soldiers and beginner executives[6]. Anaïs, Jean-Baptiste et al. (2024) noted that military personnel are periodically exposed to various stressors, sometimes leading to heightened anger[7]. Steven, Scott, et al. (2002) focused on examining military stress intensity and developed a scale to assess the intensity of stressors[8].

The aforementioned studies, however, did not account for the characteristics of Generation Z soldiers and lacked in-depth consideration of how non-enlisted Generation Z individuals cope with the stress of military service as executives. Currently, the Korean military is facing a supply and demand crisis for beginner executives, driven by a rapidly declining birth rate and a simultaneous demand for better service conditions. In this regard, this paper analyzes factors needed to expand support for non-enlisted Generation Z individuals as beginner executives. And based on the analysis, it seeks to examine measures to supplement military power.

2. The Concept of Generation Z and the Aspects of Beginner Executives

2.1. The concept of generation Z

North A cohort is a group of people who share a common experience or event within the same time period. Typically, a cohort experiences a specific event together, developing a shared culture and relatively similar values, attitudes and beliefs, which leads to relative similarity and a certain degree of homogeneity. These characteristics make it effective to define a generation from a cohort perspective[9]. Accordingly, a generation is a collective entity defined by shared characteristics, including political, economic and sociocultural backgrounds. A group of people from the same generation shares a specific identity shaped by historical consciousness and social experiences[10]. This allows us to categorize generations by time period, and each generation reveals unique, common characteristics.

Educationalist Marc Prensky (2001) defined Generations X, Y, and Z based on the changing digital environment. Many researchers have also categorized generations and identified their characteristics. Based on various existing academic studies, the generational classification and aspects are summarized in <Table 1>.

Table 1. Generational classification and aspects.

Generation	Birth Years	Characteristics	Key Aspects
Baby Boomers	1950-1964	Analog	- Ideological, post-war, leisure and health-centered, family-oriented, freedom-oriented, gender-equality
Generation X	1965-1979	Digital Immigrant	- Materialistic, competitive, sensory, individualistic, consumer-oriented, excellent information processing skills, anti-authoritarian
Generation Y	1980-1995	Digital Nomad	- Globalized, experience-centered, trendy, practical, aesthetic, preference for online activities
Generation Z	1996 and later	Digital Native	- Realistic, ethics-oriented, preference for social networks, consideration for personal beliefs and values

Note: Seo Junhyeok. A Study on Improving Service Environment and Expanding Support for Junior Army Officers -Focusing on the Perception of MZ Generation in Gangwon Province-. Sangmyung University, Doctoral Thesis (2024).

Generation Z refers to the generation that follows the Millennials, with individuals born between the mid-1990s and the early 2010s. Accordingly, Statistics Korea define Generation Z as those born between 1995 and 2025. In South Korea, Generation Z is estimated to be around 6.5 million, which accounts for about one-eighth of the adult population of 18 or older. Generation Z exerts influence across most industries and consumer sectors. Since Generation Z is shaping the future of South Korea, analyzing its tendencies is crucial for predicting the future of the country.

Generation Z is also called “digital natives”, who experienced digital technology from birth and are thus different from millennials, who grew up with digital technology during their adolescence. In particular, South Korea’s Generation Z is very familiar with information technology and internet, making them quick to adopt new IT technologies. The psychological characteristics of Generation Z individuals can be summarized as follows. First, they value fairness. Second, they prioritize personal growth. Third, they are more sensitive to immediate, tangible rewards than to intangible values like honor. Fourth, they seek respect for their beliefs and values as digital natives.

2.2. The aspects of beginner executives

In the Korean military, beginner executives are mid-level managers. As they act as a crucial link between junior enlisted personnel and senior professional officers, they undergo significant stress[11]. In this connection, Park Seungil, Lee Donggwi, et al. (2014) noted that because today’s soldiers have vastly different personality and tendencies, beginner executives who are directly responsible for managing these individuals are facing greater difficulties in managing their personnel than the past[12]. Also, unlike other members of society, beginner executives experience a lack of autonomy because they are restricted from going out even on weekends due to restrictions on garrison areas, and they may go to work at any time after work hours for their duties[13].

The military is a vertically structured organization with the primary purpose of protecting the lives and property of citizens. Meanwhile, soldiers are perceived as beings who require protection within the military. In this context, beginner executives experience significant stress and sacrifice during their military service to achieve military objectives, and prolonged stress can sometimes lead to serious physical and mental damage. This ultimately causes a decline in motivation to serve in the army, a decrease in combat effectiveness and abandonment of military service[14]. However, despite the fact that the stress experienced by beginner executives is a greater obstacle to military service than that experienced by enlisted personnel, their stress is often considered a challenge to be overcome as they are expected to endure it as part of their duty and leadership role. As such, although beginner executives are also a key target group in need of protection, they are in a blind spot of military service stress[15]. Because a decline in

Generation Z's application rate for beginner executive positions has a significant impact on military development and national security, it is crucial to analyze key stress factors and devise countermeasures.

3. Research Subjects, Research Methods, Research Results, and Implications

3.1. Research subjects

Research subjects were limited to non-enlisted college students living in Gangwon-do, which is a border area with a high concentration of military units. The researcher carried out a survey with a sample of 500 individuals, personally contacting the subjects to explain the purpose of the survey and collect their responses. The survey was conducted over a five-day period from September 4 to 8, 2023, targeting Kangwon National University in Chuncheon and Gangneung-Wonju National University and Yonsei University in Wonju. Through this process, a sample of 500 subjects was collected, but 38 were excluded due to identification and reliability issues, resulting in a final sample size of 462 for the research. The demographic characteristics of the participants in the research are summarized in <Table 2>.

Table 2. Demographic analysis results.

Item		Frequency	Percentage
Age	19-20	372	80.5
	21	82	17.7
	22	8	1.7
	23	-	-
	24 and older	-	-
Preferred Officer Ranks	Officers	-	-
	Warrant Officers	-	-
	Non-commissioned Officers	1	.2
	Soldiers	461	99.8
	Others	-	-
Application to the Military	Army	364	78.8
	Navy	23	5.0
	Air Force	65	14.1
	Marine Corps.	9	1.9
	Others	1	0.2
ROTC or Military Scholarship Students	ROTC	-	-
	Officer Military Scholarship Students	-	-
	Non-commissioned Officer ROTC	-	-
	Non-commissioned Officer Military Scholarship Students	1	0.2
	Others	461	99.8

Note: Seo Junhyeok, p. 70 (2024).

3.2. Survey tools and data processing methods

In this paper, the researcher conducted a survey to investigate stress that Gen Z college students considering officer enlistment are expected to experience. The survey had 19 items in total, divided into two sections: four questions about demographic factors and 15 questions focused on the stress they are expected to experience while serving as beginner executives. The survey questions regarding the stress expected to be experienced as beginner executives were designed by the researcher with reference to the stress factor scale specifically developed for the Korean military by Park Hyunchul, based on the scale developed in the 'Study on Validity Evaluation of Measurement Variables of Mental Health and Stress of Industrial Personnel' <See Table 3>.

Table 3. Survey Items.

Number	Content
1	My performance and efforts will not be fairly evaluated during military service.
2	I will have to consistently compete to be recognized during military service.
3	The military's structure prioritizes unit duties over personal matters, leading to neglect of family.
4	Even if it is wrong, I will do what my commander directs me to do.
5	Most of my colleagues will likely not pay attention to me.
6	Military officers carry great responsibility, so even small mistakes can lead to serious consequences.
7	While serving as a military officer, I will be expected to work beyond designated working hours.
8	While serving as a military officer, I will be more prone to errors than in other positions.
9	When my duties are unclear, I will not know what to do due to a lack of role clarity.
10	Long-term isolation from society as a military officer can be very hard.
11	My supervisor will not forgive even small mistakes.
12	When enlisted as a military officer, I will have to complete all tasks on my own.
13	A military officer will not be able to easily rest, even when tired.
14	While serving as a military officer, I will feel stressed by the salary, which is not much different from that of soldiers.
15	As a military officer, I will experience stress due to higher responsibilities even if the salary difference with enlisted men is not as large as the responsibility gap suggests.

Note: Park Hyunchul. A Study on Improving Soldiers' Quality of Life: Focusing on Stressors and Social Support. Yonsei University, Master Thesis (2001).

Based on the survey in <Table 3>, this study sought to examine how Generation Z college students perceive the stress expected to be experienced as military officers. To this end, the collected data was organized using Hancell, and the organized data was then analyzed using SPSS, a software program for statistical analysis. The statistical significance level for all survey items was set at 0.05 or less, based on a 95% confidence level.

3.3. Analysis of generation Z's perception survey results

The significance level (p-value) for all survey items is $p<0.001$ with a confidence level of 99% or higher. <Table 4> presents a summary of the statistical findings from the survey. The mean value was calculated by converting each response to its corresponding numerical value (e.g., 5 for "very much yes", 3 for "neutral", 2 for "no", and 1 for 'very much no") on a 5-point scale.

For example, a mean value of 3.6 indicates that the average respondent's perception is between "neutral" and "yes". The mean value can be used to predict the stress Generation Z individuals are expected to experience as military officers.

Table 4. Survey Results.

No	Content	Mean Value (Ranking)	Standard Deviation	Standard Error	CV
1	My performance and efforts will not be fairly evaluated during military service.	4.600 (9)	0.594	0.028	0.129
2	I will have to consistently compete to be recognized during military service.	4.621 (8)	0.556	0.026	0.120
3	The military's structure prioritizes unit duties over personal matters, leading to neglect of family.	4.660 (6)	0.542	0.025	0.116
4	Even if it is wrong, I will do what my commander directs me to do.	4.823 (4)	0.440	0.020	0.091
5	Most of my colleagues will likely not pay attention to me.	3.686 (15)	0.985	0.046	0.267
6	Military officers carry great responsibility, so even small mistakes can lead to serious consequences.	4.846 (3)	0.384	0.018	0.079
7	While serving as a military officer, I will be expected to work beyond designated working hours.	4.710 (7)	0.487	0.023	0.103
8	while serving as a military officer, I will be more prone to errors than in other positions.	4.502 (11)	0.613	0.029	0.136
9	When my duties are unclear, I will not know what to do due to a lack of role clarity.	4.275 (14)	0.838	0.039	0.196
10	Long-term isolation from society as a military officer can be very hard.	4.576 (10)	0.605	0.028	0.132
11	My supervisor will not forgive even small mistakes.	4.366 (12)	0.758	0.035	0.174
12	When enlisted as a military officer, I will have to complete all tasks on my own.	4.301 (13)	0.855	0.040	0.199
13	A military officer will not be able to easily rest, even when tired.	4.766 (5)	0,477	0.022	0.100
14	While serving as a military officer, I will feel stressed by the salary, which is not much different from that of soldiers.	4.929 (1)	0.274	0.013	0.056
15	As a military officer, I will experience stress due to higher responsibilities even if the salary difference with enlisted men is not as large as the responsibility gap suggests.	4.929 (1)	0.282	0.013	0.057

Note: Seo Junhyeok(2024), pp. 64-118.

3.4. Results analysis and implications

The analysis of survey results involves examining the absolute perceptions of Generation Z college students on each survey item using the mean values and the relative perceptions of each item via the rankings of the mean values. The major findings and implications of the survey results are as follows. First, Generation Z, the current pool of military recruits, is expected to experience significant stress when serving as military officers. The mean values for the survey were all above 4, expect for Item 5(Most of my colleagues will likely not pay attention to me), [M=3.686]. This suggests that Generation Z individuals are expected to experience stress in most situations if enlisted as military officers. The analysis also finds that measures to reduce the

overall stress experienced by beginner executives are needed to encourage Generation Z to choose beginner executive careers.

Second, Generation Z anticipates that serving as military officers will be stressful due to their salaries, which are similar to those of enlisted personnel. They will likely be stressful as in Item 14(While serving as a military officer, I will feel stressed by the salary, which is not much different from that of soldiers), [M=4.929] and Item 15 'As a military officer, I will experience stress due to higher responsibilities even if the salary difference with enlisted men is not as large as the responsibility gap suggests'. That is, Generation Z was most sensitive to [M=4.929]. As such, Generation Z will likely experience significant stress if they serve as officers, given salaries comparable to those of soldiers. Accordingly, an increase in beginner executives' salaries is expected to improve military service conditions and boost self-esteem, thus alleviating salary-related stress.

Third, Generation Z predicts that they will feel stressed about not progressing in the military. To be specific, Generation Z judges that it will be difficult to foster personal growth if enlisted as a beginner executive as in Item 4 (Even if it is wrong, I will do what my commander directs me to do), [M=4.823], Item 7 (While serving as a military officer, I will be expected to work beyond designated working hours), [M=4.710], Item 3 (The military's structure prioritizes unit duties over personal matters, leading to neglect of family), [M=4.660], Item 13 (A military officer will not be able to easily rest, even when tired), [M=4.766]. To attract Generation Z to the military officer position, the military should focus on creating a growth-oriented environment and foster supportive conditions.

Fourth, Generation Z expects high levels of consistent communication support from their colleagues but fears being asked by superiors to violate regulations as in Item 5 (Most of my colleagues will likely not pay attention to me), [M=3.686]. In the meantime, the results for Item 12 (When enlisted as a military officer, I will have to complete all tasks on my own), [M=4.301] and Item 11 (My supervisor will not forgive even small mistakes), [M=4.366] reveal that Generation Z will collaborate and be understanding of a superior' mistakes to some degree when enlisted as military officers. On the other hand, the analysis of Item 3 (The military's structure prioritizes unit duties over personal matters, leading to neglect of family), [M=4.660] and Item 4 (Even if it is wrong, I will do what my commander directs me to do), [M=4.823] finds that the stress from unfair orders and feeling responsible for mistakes will be significant during the military service. Therefore, the military should develop collaborative systems tailored to Generation Z, review regulations that punish actions taken beyond a commander's specific authority, and devise related countermeasures.

Fifth, Generation Z expects that they will experience significant stress due to the heavy responsibilities of leadership if enlisted as beginner executives. Based on their response to the survey Item 6 (Military officers carry great responsibility, so even small mistakes can lead to serious consequences), [M=4.846], Item 13 (A military officer will not be able to easily rest, even when tired), [M=4.766], and Item 3 (The military's structure prioritizes unit duties over personal matters, leading to neglect of family), [M=4.660], it is analyzed that Generation Z will experience excessive responsibility if enlisted as a military officer. Accordingly, actions and corresponding measures are needed to ease the workload of beginner executives and allow them to focus on essential tasks.

4. Improvement Measures to Expand Support for Generation Z as Beginner Executives

To foster a science and technology-based military in an era of rapidly declining population, it is crucial for the military to create an environment to attract Generation Z to become beginner

executives[16]. However, the research results suggest that Generation Z has a negative view of becoming a military officer due to concerns about high stress. Given the current shortage of beginner executives, analyzing the stressors Gen Z perceives and exploring ways to address them is crucial to build a strong military[17]. Based on the survey and analysis results, suggestions are proposed as follows.

First, a pay increase for beginner executives is urgently needed. By 2025, sergeants will receive a salary of 2.05 million won, including a base monthly salary and a future-preparation allowance. However, if no raise is implemented, the starting monthly pay of staff sergeants and second lieutenants will be around the 1.8 million won range. Generation Z doesn't understand that the salaries of general soldiers and beginner executives are similar. To achieve a pay raise for soldiers, either restructuring allowances or conversion to civil servant status is necessary. Also, one of Generation Z's characteristics is that they value fairness, which needs to be reflected. In addition to a supportive work environment, providing a salary increase that matches their responsibilities and roles is crucial for beginner executives to foster pride, boost morale and increase support rates. If Generation Z is not compensated for the value of their labor as beginner executives, they will likely choose to leave the military and change careers without hesitation.

Second, the military should create an environment to foster the growth of beginner executives. The survey results demonstrate that Generation Z perceives a lack of growth opportunities for beginner executives in the current military environment. The keyword "growth" is crucial for Generation Z, and work-life balance, a sensitive issue for Zen G, can be explained through the keyword "growth". This is because Generation Z in South Korea has already experienced the end stage of the country's rapid economic growth and a highly competitive academic environment. Taken all together, the military should explore diverse ways to foster the growth of beginner executives. For example, a formal system should be implemented to ensure equal opportunity for commissioned training during a beginner executive's 25% service period. In addition, a measure should be devised to provide compensation equivalent to tuition for executives who opt out of commissioned training[18][19].

Third, improvements are needed in how senior commander's direct beginner executives. In this connection, one reason Generation Z may not apply for a junior officer position is the reluctance to comply with unreasonable orders from commanders. This paper proposes that more realistic measures are needed to ensure necessary command actions are possible. Measures to limit command authority and misuse of power include prohibiting senior commanders from giving instructions to off-duty members not on duty[20]. To strengthen a military and expand support for beginner executives, institutional measures should be introduced to proactively link regulatory violations to personnel decisions and disciplinary actions.

Fourth, the military should explore ways to reduce the responsibilities and work scope of beginner executives to match workload to their current capabilities. Most Generation Z individuals think that beginner executives' responsibilities are broad. Beginner executives perform crucial roles and duties for operating combat elements within each military branch[21][22]. In this sense, beginner executives need to focus on combat. Ensuring that beginner executives can focus on combat elements directly enhances military combat capabilities. Nevertheless, many administrative factors divert beginner executives' time from focusing on combat elements. To free up beginner executives to focus on combat readiness, the military should introduce measures to expand the use of civilians and veterans in non-combat roles.

5. Conclusion

In South Korea, which maintains a conscription system, most men are required to perform mandatory military service. Generation Z is currently a vital source of recruits for national security and military maintenance. In an era of rapid population decline, if Generation Z does not choose to enlist as a beginner executive, the Korean military will face national challenges. Therefore, this paper examines how to create a military environment and measures that help Generation Z individuals apply for beginner executive roles with less stress and fulfill their duties and responsibilities as officers.

Many generations prior to Generation Z saw becoming a beginner executive as an honorable path, representing a dedication to the nation. However, for Generation Z, enlistment as an officer can be viewed as a career path with opportunities for growth in the military. Accordingly, the military should have a comparable advantage over other organization in society to attract young people to become officers. In reality, if the military is no longer considered an organization that supports further development, the application rate for beginner executives will continue to decline[23]. Ultimately, in order to cultivate beginner executives both quantitatively and qualitatively, the military should address both the quantity and quality of personnel while implementing stress relief measures. In this regard, research needs to be conducted on quantitative and qualitative levels for beginner executive recruits. Also, the system must be continuously improved to determine salary increases required to recruit junior officers who meet requirements, and personnel acquisition systems must be called for innovation to allow for more career path choice.

This innovation aligns with the efforts of the Korean military to modernize its organizational culture. The Korean military is tasked with ensuring national security and safeguarding citizens' lives and property against external threats, particularly from North Korea, and the military members are supposed to be obedient to orders due to the military's hierarchical structure, which has imposed sacrifices on beginner executives[24]. However, the Korean military should acknowledge that Generation Z may not have the same sense of duty to make sacrifices as previous generations. In a related move, the Korean military needs to transform its organizational culture to encourage growth and reasonable compensation for sacrifice and dedication rather than imposing sacrifices on beginner executives, considering the characteristics of Generation Z. It is expected that transforming the organizational culture to reduce stress in beginner executives will contribute to creating a virtuous cycle of securing highly qualified personnel and enhancing combat capabilities. Ultimately, the Korean military should strive to improve the service conditions of beginner executives and strengthen their capabilities by implementing continuous system improvements, while leveraging its role as a public educational institution.

6. References

6.1. Journal articles

[1] Shim JG & Yang JI & Ahn DS. A Study on the Use of Gardens to Cope with the Stress of Soldiers. *Journal of Recreation and Landscape*, 15(1), 1-9 (2021).

[2] Lee AY & Lee HW & Jo SJ & Yim HW & Jang SB & Park JI. The Correlation between Stress, Depression, and Social Relations of Korean Soldiers with a History of Suicidal Behavior. *Korean Neuropsychiatric Association*, 57(4), 323-331 (2018).

[3] Seol JH & Park SH. The Effect of Stress and Cognitive Emotion Regulation Strategies on Psychological Health Problems in Korean Navy Personnel: The Moderated Mediating Effect of Perceived Social Support. *Korean Journal of Clinical Psychology*, 34(2), 553-578 (2015).

[4] Victoria L & Matthew G & Neil G. What Is Its Effect on Stress in the Military?. *Military Medicine*, 172(9), 931-935 (2007).
[5] Andrew F & Richard J. Cognitive Resilience to Psychological Stress in Military Personnel. *Performance Science*, 13, 17-21 (2022).
[6] Azad M & Salimi SH. Study on Job Stress in a Military Unit. *Journal of Military Medicine*, 6(4), 279-284 (2005).
[7] Anaïs M & Jean-Baptiste B. Hidden' Anger as a Risk Factor for Operational Health: an Exploratory Approach among French Military Personnel. *Military Psychology*, 1(11), 148-158 (2024).
[8] Steven P & Scott S. Work Stress in the Military: Prevalence, Causes, and Relationship to Emotional Health. *Military Medicine*, 167(11), 126-135 (2002).
[10] Jeon IS & Choi WW. A Study on the Shopping Values and Shopping Information Usage Characteristics of Generation X. *Journal of Product Research*, 15, 199-220 (1999).
[11] Kim K & Kang W. A Study on the Performance Analysis of Military Culture Innovation. *International Journal of Military Affairs*, 6(1), 27-34 (2021). [Read More]
[12] Park SI & Lee DG. Influence of Job Satisfaction, Job Stress, Anger Expression, Depression, and Hopelessness of Junior Officers of Aramid Forces on Their Suicidal Ideation. *Korean Journal of Psychology: Counseling and Psychotherapy*, 26(2), 29-48 (2014).
[13] Jung JK. A Study on the Exterminating Violence in Military and Human Rights of Military Officers. *Journal of Convergence Security*, 16(3), 99-106 (2016).
[14] Kim JY & Seo JY. The Effect of Job Insecurity on Depression of Junior NCOs in the Republic of Korea Military: Focused on Social Connectedness as Moderator. *Korean Academy of Military Social Welfare*, 11(1), 61-84 (2018).
[15] Seo JH & Yun JW. An Analysis of the Improvement of Military Culture in the Korean Military for the Post-youth. *Korea and Global Affairs*, 8(1), 353-381 (2024).
[16] Yun J & Bae I. A Study on Fostering Reserve Forces Capable of Demonstrate the Ability to Immediately Respond of the Korean Armed Forces. *International Journal of Military Affairs*, 7(2), 41-51 (2022). [Read More]
[17] Lim YJ & Park GY & Bang WS. Stress Management of Korean Military Leaders. *International Journal of Military Affairs*, 3(2), 1-7 (2018). [Read More]
[18] Seo J & Yun J. A Study on the Need for Collective Consultation in the South Korean Army: Focusing on the Characteristics of the MZ Generation. *International Journal of Military Affairs*, 9(0), 1-11 (2024). [Read More]
[19] Seo JH & Yun JW. The Reality of the Barracks Culture of the Korean Armed Forces of Generation MZ and the Search for Alternatives. *International Journal of Military Affairs*, 7(1), 65-74 (2022). [Read More]
[20] Park SJ & IM YS. A Case Study on the Core Competencies of Military Leadership for Junior Officers. *International Journal of Military Affairs*, 5(1), 1-12 (2020). [Read More]
[21] Kang Y & Im Y. The Effect of Army Professionals' Perceptions of the System on Organizational Commitment: The Mediation Effects of Professional Identity. *International Journal of Military Affairs*, 6(2), 21-30 (2021). [Read More]
[22] Patrice AK. Soldiers Working Internationally: Impacts of Masculinity, Military Culture, and Operational Stress on Cross-cultural Adaptation. *International Journal for the Advancement of Counselling*, 32(4), 290-303 (2010).
[23] Shon JH & Kim CS & Lee HS. A Study on the Response of Each Generation to the Communication Characteristics of the MZ Generation - Focusing on Generation MZ, Generation X, and Baby Boomers. *Communication Design Association of Korea*, 77, 202-215 (2021).
[24] Kim JH. A Study on the Counseling Techniques for New Generation Soldiers of Military Officials. *Asia Culture Academy of Incorporated Association*, 12(1), 3075-3084 (2021).

6.2. Additional references

[9] Park HJ & Kim SA. Intergenerational Disparities in Income, Assets, and Public Transfers: An Age-Period-cohort Analysis. 2006-2021. Paper Presented at the Korea Welfare Panel Conference (2023).

7. Appendix

7.1. Author's contribution

	Initial name	Contribution
Lead Author	JS	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑ -Make a significant contribution to collection ☑ -Final approval of the paper ☑ -Corresponding ☑ -Play a decisive role in modification ☑
Corresponding Author*	JY	-Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑

2025 Vol.10 No.0, 12-24 Received: 2025/08/30, Peer-reviewed: 2025/09/30, Accepted: 2025/10/27, Published: 2025/12/30

International Journal of Military Affairs

Publisher: J-INSTITUTE
ISSN: 2423-8775

Website: j-institute.org

Corresponding author*
E-mail: hjlee1609@gmail.com

DOI Address:
dx.doi.org/10.22471/military.2025.10.0.12

AI-Driven Transformation of Military Education and Training: A Comparative SWOT Analysis for the Republic of Korea Armed Forces

Yongkwan Kang[1]

Korea Army Academy at Yeongcheon, Assistant Professor, Republic of Korea

Hanjun Lee[2*]

Myongji University, Associate Professor, Republic of Korea

Abstract

Purpose: *This study aims to analyze how artificial intelligence (AI)–driven technologies are transforming military education and training systems, with a particular focus on strategic implications for the Republic of Korea (ROK) Armed Forces. As AI, virtual simulation, and data analytics reshape modern warfare and command decision-making, understanding their integration into professional military education has become essential for future readiness.*

Method: *Using a comparative case study and SWOT analytical framework, this paper examines AI-based education and training innovations in the United States, the United Kingdom, Israel, France, and Japan. Data were collected from official defense reports, academic literature, and institutional documents to identify each nation's approaches to AI integration in military learning. The analysis evaluates the ROK military's strengths, weaknesses, opportunities, and threats in adopting AI-centered education systems.*

Results: *The comparative analysis revealed several significant patterns in how leading militaries are integrating AI into their education and training frameworks.*

First, technological integration and cognitive learning convergence emerged as a global trend. The United States and the United Kingdom employ AI-enabled simulations and adaptive learning systems that provide personalized training feedback. Israel's Defense Forces demonstrated real-time combat learning through automated data analysis, enhancing decision-making accuracy during mission rehearsal exercises. France and NATO have expanded AI-assisted wargaming for strategic and ethical decision training, showing that artificial intelligence is being used not only for operational efficiency but also for cultivating strategic judgment.

Second, the ROK Armed Forces exhibit strong foundational readiness for AI-based transformation. Korea's advanced ICT infrastructure, high data literacy within the defense industry, and disciplined training culture serve as major strengths. However, several critical weaknesses were identified: insufficient AI literacy among instructors, limited cross-branch data integration, and the absence of a unified defense learning framework. These factors hinder the scalability and coherence of AI-based training initiatives.

Third, emerging opportunities include expanding international cooperation with the United States, NATO, and other AI defense clusters. The Korean National Defense AI Strategy (2024–2030) provides policy momentum to institutionalize AI education and simulation systems. Yet threats remain—especially overreliance on technology, ethical dilemmas in AI decision support, and data security vulnerabilities.

Overall, the results underscore that Korea's transition to AI-driven military learning requires not just technological acquisition but a holistic transformation linking pedagogy, leadership, and human–machine teaming principles.

Conclusion: *The study concludes that the Republic of Korea Armed Forces stand at a strategic crossroads in the evolution of military education and training.*

While existing infrastructures provide a solid base, the full potential of AI integration can only be realized through comprehensive reform of institutional design, curriculum philosophy, and interservice coordination. The future of effective military learning lies in harmonizing human cognitive adaptability with algorithmic precision.

To achieve this transformation, three strategic initiatives are recommended:

1. *Establish an AI-Integrated Joint Training Command to unify data resources, coordinate doctrine, and manage simulation ecosystems.*
2. *Develop the Korean Defense Learning Model (K-DLM) that combines AI analytics, experiential learning, and ethical leadership education.*
3. *Implement AI Literacy and Leadership Programs to cultivate officers capable of interpreting and supervising AI-generated insights responsibly.*

By adopting these measures, the ROK military can evolve into a smart defense force that lever-ages artificial intelligence not as a substitute for human judgment, but as an amplifier of critical thinking, adaptability, and mission success. Future research should expand this framework through empirical case studies, simulation-based evaluations, and cross-national policy bench-marking to further validate the effectiveness of AI-enhanced military education.

Keywords: ***Artificial Intelligence, Military Education, Simulation Training, ROK Armed Forces, SWOT Analysis***

1. Introduction

The emergence of artificial intelligence (AI) has ushered in a transformative era for military education and training. Warfare in the twenty-first century is no longer defined solely by kinetic force or territorial control; it now hinges on information dominance, data-driven decision-making, and cognitive agility. As hybrid warfare and multi-domain operations become the norm, armed forces worldwide are re-imagining how they prepare soldiers and leaders to learn, adapt, and act under uncertainty. In this evolving context, military education and training are no longer limited to the transfer of tactical knowledge or physical discipline; they now function as the core mechanism for cultivating cognitive agility, creative problem-solving, and human–machine collaboration.

Across leading defense organizations, AI technologies are reshaping the foundations of professional military education (PME). The United States has developed initiatives that integrate AI analytics and virtual reality into PME ecosystems, enabling data-informed operational learning and decision simulation[1]. The United Kingdom's efforts emphasize adaptive learning platforms integrating human performance data and machine-learning feedback[2]. Research also highlights the significance of human–machine teaming, trust in autonomy, and meaningful human control within military human-autonomy systems. These innovations represent a paradigm shift from static curricula towards dynamic, personalized, and continuously evolving learning ecosystems.

For the Republic of Korea (ROK) Armed Forces, which operate under a rapidly changing security environment and demographic constraints, AI integration in education and training has become a strategic necessity. While Korea has achieved remarkable advancements in ICT infrastructure, digital defence industries, and simulation-based exercises, the institutional application of AI remains fragmented. Training programmes often rely on conventional pedagogies focused on repetition rather than adaptive learning, and inter-service coordination in data utilisation remains limited. Without a coherent framework linking technology, pedagogy, and leadership development, the transformative potential of AI for the ROK military cannot be fully realised.

This study therefore seeks to address the critical question of how the ROK Armed Forces can evolve into an intelligent, AI-augmented learning organisation. By conducting a comparative analysis of AI-based education and training systems in major defence powers, the research applies a SWOT framework to identify the ROK military's strategic strengths, weaknesses, opportunities, and threats in the transition toward smart warfare education. Beyond the technological

dimension, the paper emphasises the philosophical and ethical imperative of harmonising algorithmic precision with human judgment, creativity, and moral responsibility. Ultimately, this study aims to provide theoretical insights and policy recommendations that support the ROK military's transformation into a "smart defence" institution capable of sustaining operational excellence in the age of intelligent machines.

2. Literature Review and Theoretical Framework

2.1. The digital transformation of military education

Military education has evolved significantly over the past two decades, moving from instructor-centered teaching toward dynamic, technology-assisted learning environments[3]. Artificial intelligence (AI), simulation, and data analytics now form the foundation of this transformation, enabling forces to enhance cognitive readiness and operational adaptability.

In the United States, AI has been identified as a "strategic enabler" for training and professional military education (PME). The U.S. Army's Project Maven and Joint Synthetic Environment (JSE) exemplify the fusion of data, simulation, and learning analytics for tactical and command training. Likewise, the U.S. Army War College report Trusting AI: Integrating Artificial Intelligence into the Army's Professional Expert Knowledge highlights how machine learning and data-driven systems are redefining how military expertise is cultivated[4].

In the United Kingdom, the Defence Science and Technology Laboratory (DSTL) has promoted adaptive learning research that integrates performance data with intelligent tutoring systems to improve officer training[5]. Collectively, these cases illustrate a paradigm shift in PME: from memorization-based instruction toward iterative, feedback-driven learning ecosystems where technology amplifies rather than replaces human judgment.

2.2. Artificial intelligence and adaptive learning theory

Recent studies on adaptive instruction emphasize that effective learning environments are structured around feedback, application, and reflection rather than content delivery alone, reinforcing the relevance of AI-enabled personalization in military education[6].

AI-driven instruction aligns closely with adaptive learning theory, which frames learning as an ongoing process of reflection, feedback, and adjustment. Within military contexts, adaptive learning emphasizes situational awareness and flexibility—skills critical to complex decision-making under uncertainty[7].

According to Maathuis (2025), human-AI "co-learning" enhances these abilities by allowing continuous interaction between human intuition and algorithmic feedback, fostering real-time performance improvement. However, scholars stress that AI integration must preserve human agency and ethical oversight, ensuring that decision authority remains meaningfully under human control[8].

This duality—leveraging algorithmic precision while maintaining human judgment—forms the theoretical basis for modern military pedagogy. As Bode (2025) argues, true innovation lies not in replacing the human element but in "reconstructing the conditions of human agency" within AI-enhanced military systems.

2.3. Global models of AI integration in military education

Comparative experiences across allied nations further highlight diverse pathways of AI adoption. Trust in automation has been identified as a critical condition for effective human–AI collaboration, particularly in high-risk domains such as military decision-making and professional education[9].

The U.S. military employs AI-enabled simulations and generative learning systems to prepare leaders for future multi-domain operations[10]. Israel's Defense Forces (IDF) have integrated AI-based feedback into operational rehearsal environments, enhancing mission preparedness and leadership adaptability[11].
NATO, meanwhile, explores AI-enabled wargaming to strengthen strategic foresight and ethical decision-making within joint command structures[12].

These international initiatives collectively represent a transition toward intelligent learning ecosystems—educational frameworks that combine machine-driven adaptability with human creativity, reflection, and moral reasoning.

2.4. Theoretical framework: SWOT and organizational learning

To analyse the Republic of Korea (ROK) Armed Forces' readiness for AI-driven transformation, this study applies the SWOT analytical framework, which systematically evaluates internal strengths and weaknesses alongside external opportunities and threats. SWOT analysis is especially effective in the defense education domain, where technological, organizational, and cultural variables interact in complex ways.

Complementing SWOT is organizational learning theory, which posits that institutions evolve through feedback loops between experience, knowledge, and behavior[13]. When coupled with systems thinking, this perspective views AI as a catalyst for accelerating learning rather than a replacement for human cognition[14]. The intersection of these frameworks provides a holistic model for understanding how AI can foster both strategic adaptability and educational innovation within the ROK military.

3. Research Methodology

3.1. Research design

This study employs a comparative qualitative design using the SWOT analytical framework to assess the Republic of Korea (ROK) Armed Forces' readiness for AI-driven transformation in military education and training. Comparative analysis enables identification of convergent patterns and contextual differences across advanced defense education systems, while SWOT analysis offers a structured means of evaluating both internal and external factors that influence organizational reform[15].

The methodological foundation follows Yin (2018) for case-study logic and Bryman (2016) for mixed-method integration[16]. The study focuses primarily on document analysis of defense white papers, institutional reports, and peer-reviewed research from 2017 to 2025, ensuring both conceptual validity and policy relevance.

3.2. Case selection and comparative logic

Five countries—the United States, the United Kingdom, Israel, France, and Japan—were selected as comparative cases based on:

1. Demonstrated AI integration in defense education;
2. Availability of official or academic sources; and

3. Relevance to Korea's strategic and technological context.

The U.S. and U.K. represent NATO-based models linking AI with simulation and adaptive learning; Israel embodies a rapid-innovation model focused on data-driven feedback; France illustrates ethical AI integration in strategic education; and Japan provides a regional comparison aligned with Korea's operational environment[17].

3.3. Data collection

Primary data came from official defense documents and peer-reviewed literature, including:

U.S. Department of Defense Artificial Intelligence Strategy (2023 Update) and Project Maven reports;

DSTL (Human Performance and Artificial Intelligence Programme, 2022);

Israel Defense Forces (IDF) AI training analyses; and

Strategic studies on AI-enabled military education and decision training [18].

All documents were cross-checked using Bowen's (2009) document-analysis methodology to enhance reliability and reduce single-source bias[19].

3.4. SWOT analytical procedure

The SWOT framework was applied through four steps adapted from Helms and Nixon (2010) :

1. Identify AI-related educational and organizational variables;
2. Classify them as internal (strengths/weaknesses) or external (opportunities/threats);
3. Synthesize cross-case findings into a comparative matrix; and
4. Interpret implications for the ROK Armed Forces.

This design ensures that SWOT functions as both diagnostic and strategic—linking empirical patterns with policy insights.

3.5. Limitations

The study relies on verified open-source data but may omit classified developments in military AI programs. Terminological differences across countries could also affect comparability. To mitigate these limitations, triangulation was conducted using multiple academic and institutional sources, including the U.S. Army War College SSI, NATO Allied Command Transformation, and the RAND Corporation.

4. Comparative Case Analysis

This section compares five representative nations—the United States, the United Kingdom, Israel, France, and Japan—to identify how artificial intelligence (AI) technologies are integrated into military education and training. The analysis focuses on each country's institutional approach, technological adoption, and educational philosophy, based on verified open-source and academic sources.

Figure 1. AI-integrated military education and training environment.

<Figure 1> provides a visual illustration of how artificial intelligence, simulation technologies, and human–machine teaming are integrated within contemporary military education and training environments.

4.1. United States: institutionalized AI and simulation ecosystems

The United States has taken a leading role in embedding AI across its professional military education (PME) and training frameworks. The Department of Defense Artificial Intelligence Strategy (2023 Update) emphasizes AI as a decisive element in sustaining "decision dominance" across domains[20].

Two initiatives stand out: Project Maven, which utilizes machine learning to analyze battlefield data and enhance operational feedback loops, and the Joint Synthetic Environment (JSE), which integrates AI-enabled simulations for multi-domain training.

The U.S. Army War College Strategic Studies Institute (SSI) underscores that AI integration requires not only algorithmic proficiency but also institutional trust and ethical oversight. The PME curriculum now includes modules on AI ethics, data literacy, and human–machine collaboration, reflecting a strategic shift from rote instruction to adaptive learning. As a result, AI in the U.S. system functions as both a training tool and a doctrinal driver, shaping the Army's cognitive and ethical approach to 21st-century warfare.

4.2. United Kingdom: adaptive learning and human performance research

The United Kingdom's Defence Science and Technology Laboratory (DSTL) and the Royal Military Academy Sandhurst have emphasized the fusion of human performance data with machine learning systems. DSTL's Human Performance and Artificial Intelligence Research Programme (2022) outlines AI's role in building adaptive learning environments that continuously tailor content to trainee performance.

British PME reforms align with the "human-in-the-loop" philosophy—ensuring that automation supports, rather than replaces, human judgment. This approach stems from the UK Ministry of Defence's Human-Machine Teaming Framework (2021), which defines trust calibration and cognitive workload management as essential factors in AI-based training[21].

Consequently, British institutions are developing "cognitive readiness" models that combine live exercises, virtual simulation, and AI analytics to strengthen situational awareness and decision resilience under uncertainty.

4.3. Israel: operational AI and real-time learning

Israel's Defense Forces (IDF) have implemented one of the most agile AI education systems, focused on real-time operational learning and mission rehearsal. According to Raska (2023), AI-assisted command training allows IDF officers to simulate rapidly evolving combat environments, extracting data-driven insights to refine leadership behavior.

AI in Israel's system serves a dual function: automating information processing during exercises and generating post-action reports for leadership debriefing. The IDF's Digital Transformation Directorate supports the concept of "learning while fighting," integrating AI tools into both combat training and classroom curricula[22].
This reflects Israel's doctrine of manoeuvre-based adaptability, where human intuition and machine learning are interdependent, continuously reinforcing each other through combat-derived data.

4.4. France: ethical and strategic dimensions of AI education

France has prioritized ethical literacy and strategic foresight in its AI integration within defense education. The Ministère des Armées defines AI as a "strategic companion to military judgment," emphasizing responsibility, control, and transparency in autonomous systems[23].

At the École de Guerre (War College), AI-enhanced wargaming platforms are employed to test decision-making under uncertainty, combining ethical dilemmas with operational constraints. These simulations help officers understand the moral and legal boundaries of AI-assisted warfare, aligning with NATO's Responsible AI Principles for Defense adopted in 2022[24].

At the international level, NATO has articulated principles for the responsible use of artificial intelligence, underscoring human accountability, transparency, and ethical governance in military applications[25].

This human-centered framework situates France as a leading example of ethical AI pedagogy—one that balances technological sophistication with moral accountability and international norms.

4.5. Japan: cognitive simulation and regional adaptation

Japan's National Defense Academy (NDA) and the Acquisition, Technology & Logistics Agency (ATLA) have developed simulation-based decision-support tools incorporating AI-driven scenario generation[26].

Japanese defense education adopts a pragmatic approach, blending Western analytical models with regional strategic realities. Simulation exercises such as the Integrated Defense Decision Simulation Program use AI algorithms to replicate crisis dynamics in the Indo-Pacific region, training officers to manage complexity and uncertainty collaboratively.

These AI applications are accompanied by Japan's Defense Buildup Program (2023), which emphasizes data-sharing, ethical oversight, and regional interoperability—principles that parallel Korea's defense innovation agenda. Japan's experience demonstrates the potential for middle powers to build AI-enabled learning systems that are technologically efficient yet culturally contextualized.

4.6. Cross-case synthesis

Comparative analysis reveals several convergent trends among the five cases:

Human–AI Teaming as Pedagogical Core — All nations emphasize collaboration between human judgment and machine analysis. AI as Strategic Infrastructure — AI is not limited to tools but constitutes a new institutional foundation for PME reform. Ethical Governance — From the UK to France, AI integration is accompanied by frameworks ensuring human accountability. Operational Adaptation — Nations like Israel and Japan use AI to translate battlefield data directly into education feedback loops.

For the Republic of Korea, these patterns highlight that successful AI-driven military education requires not only technological capability but also ethical coherence, leadership adaptability, and institutional synchronization.

5. SWOT Analysis of the ROK Military Education and Training System

To assess the Republic of Korea (ROK) Armed Forces' readiness for AI-based transformation in education and training, this section applies the SWOT analytical framework derived from global comparisons. The analysis identifies internal strengths and weaknesses alongside external opportunities and threats, integrating both organizational and technological dimensions.

Table 1. SWOT Analysis of AI-based military education in the ROK armed forces.

Category	Key Elements
Strengths	Advanced ICT infrastructure; disciplined training culture; Defense Innovation 4.0 policy support
Weaknesses	Limited AI literacy among instructors; low interservice data interoperability; absence of unified AI training command
Opportunities	Alliance-based AI cooperation (U.S., NATO); national AI strategy; public–private defense innovation ecosystem
Threats	Cybersecurity risks; ethical concerns in AI decision support; dependence on foreign AI technologies

<Table 1> summarizes the key strengths, weaknesses, opportunities, and threats identified through the comparative analysis of AI-based military education systems.

5.1. Strengths

The ROK Armed Forces possess a number of structural and cultural advantages that position them well for AI-driven modernization.

First, Korea has one of the world's most advanced ICT infrastructures, supported by national broadband coverage, 5G military communication development, and defense-level data networks[27].

Second, the military benefits from a strong learning discipline and hierarchical cohesion, which allow rapid adoption of standardized procedures and technological systems.

Third, the government's Defense Innovation 4.0 Initiative (2022–2030) explicitly identifies AI, big data, and simulation as pillars of future force development, thereby ensuring institutional continuity and budgetary support[28].

These strengths provide a solid foundation for integrating AI into both tactical training and professional military education (PME) frameworks.

5.2. Weaknesses

Despite these advantages, several structural weaknesses limit the ROK Armed Forces' full transition toward AI-enabled education.

The most prominent challenge is limited AI literacy among instructors and mid-level officers. Training curricula often emphasize procedural repetition rather than adaptive thinking, hindering flexibility in AI-supported learning environments.

Additionally, data interoperability across services remains inadequate; the Army, Navy, and Air Force maintain separate simulation and learning management systems, preventing the integration of shared data analytics.

Finally, the lack of a dedicated AI-focused training command results in fragmented leadership and coordination in AI-related education initiatives.

Without structural unification and workforce retraining, AI adoption risks remaining at the pilot-project level rather than evolving into a cohesive institutional framework.

5.3. Opportunities

The ROK Armed Forces operate within a favorable external environment for AI integration. The growing global trend of AI collaboration among allies—especially within NATO, the U.S.–ROK Alliance, and Indo-Pacific security frameworks—offers avenues for technological partnership and joint research.

Domestically, Korea's National AI Strategy and the Ministry of National Defense's investment in AI-driven wargaming and digital twin simulations provide momentum for systemic innovation. Moreover, the country's vibrant private sector, including major defense contractors and technology firms, serves as a strong base for dual-use innovation between military and civilian AI applications.

These factors collectively present a strategic window for Korea to accelerate the establishment of an AI-integrated learning ecosystem.

5.4. Threats

Potential threats to the ROK military's AI transformation stem from both external and internal sources.

Externally, cybersecurity vulnerabilities and data breaches could undermine the reliability of AI-enabled systems, especially when integrated into joint or multinational networks.

Ethically, algorithmic bias and loss of human accountability in AI-supported decision-making pose significant reputational and operational risks.
Internally, institutional inertia and bureaucratic resistance may slow reform efforts, as the adoption of AI challenges existing norms of command authority and human judgment.

Finally, strategic dependency on foreign technologies—especially from U.S. and NATO vendors—may limit Korea's operational autonomy if not balanced with indigenous innovation.

5.5. Synthesis

Overall, the SWOT analysis suggests that the ROK Armed Forces are technologically capable but institutionally fragmented.

The most urgent priorities include:

1. Establishing an AI-Integrated Joint Training Command to unify policy, resources, and doctrine;
2. Developing a Korean Defense Learning Model (K-DLM) that merges AI analytics with adaptive pedagogy; and
3. Building a Defense AI Literacy Program for instructors and commanders, ensuring ethical and operational proficiency.
4. By transforming its education system into a human–machine adaptive network, the ROK military can evolve into a learning organization that continuously recalibrates doctrine, tactics, and leadership training for the post-AI era.

6. Results

The results of this research highlight a critical paradox within the Republic of Korea (ROK) Armed Forces: technological readiness is high, yet institutional integration remains incomplete. The comparative analysis with advanced military education systems shows that while Korea possesses one of the most sophisticated ICT infrastructures in the world, its current approach to AI in education remains fragmented and tool-oriented rather than systemically pedagogical.

The SWOT analysis identified that the ROK military's internal strengths—technological infrastructure, disciplined learning culture, and strong policy direction—are counterbalanced by weaknesses such as low AI literacy among instructors, limited interservice data interoperability, and an absence of a unified AI training doctrine.

Externally, the expanding global collaboration in AI among allied militaries provides new strategic opportunities, while cyber threats, ethical risks, and technological dependency on foreign partners remain persistent challenges.

Collectively, these findings confirm that Korea's future military education reform must evolve from technology adoption to organizational adaptation.

AI should not be viewed as an isolated tool but as an integrated ecosystem for leadership development, ethical decision-making, and operational agility.

The results further indicate that institutions which embed AI into their doctrinal thinking—such as the U.S. Army War College or the IDF Command Academy—achieve not only technical efficiency but also cognitive superiority through feedback-driven learning cycles.

For the ROK Armed Forces, this insight underscores the necessity of aligning AI integration with leadership philosophy and joint command culture.

7. Discussion and Conclusion

The findings of this study provide both theoretical and policy-oriented implications for Korea's defense education system in the age of artificial intelligence.
Theoretically, the research reaffirms that the core of military learning lies not in technology itself but in adaptive human cognition.

AI can accelerate decision-making and information processing, but its long-term value depends on the human ability to interpret, critique, and ethically supervise algorithmic outputs.
Thus, the transformation toward AI-enabled education must preserve the primacy of human judgment—a value shared by all advanced militaries examined in this study.

From a policy perspective, three strategic directions are recommended:

1. Establish an AI-Integrated Joint Training Command.
   This new organization should consolidate training policies, doctrine, and data systems across all services, providing unified direction for AI-based learning.

2. Develop the Korean Defense Learning Model (K-DLM).
   The model should merge simulation analytics, adaptive pedagogy, and ethical reasoning, ensuring that AI tools reinforce human insight rather than replace it.

3. Institutionalize AI Literacy and Ethics Programs.
   A national-level initiative is needed to train instructors and officers in data interpretation, machine ethics, and human–AI collaboration competencies.

These recommendations align with Korea's Defense Innovation 4.0 White Paper and National Artificial Intelligence Strategy, both of which emphasize human–machine integration as a foundation for defense modernization[29].

If implemented effectively, these measures will enable the ROK Armed Forces to transform into a cognitively agile and ethically resilient military learning organization—one capable of maintaining strategic autonomy amid the rapid evolution of intelligent warfare. These ethical and governance considerations align with global AI policy frameworks, such as the OECD Principles on Artificial Intelligence, which emphasize human-centered values and institutional responsibility in AI deployment[30].

Ultimately, the post-AI military will be defined not by who has the most advanced machines, but by who learns, adapts, and governs them most wisely. Korea's future defense education must therefore cultivate not only technical excellence but also the moral and intellectual maturity to command intelligent systems responsibly.

8. References

8.1. Journal articles

[1] Putra H & Mulyono BE. The Role of Artificial Intelligence in Military Education: A Double-edged Sword. *Indonesian Journal of Educational Science and Technology*, 3(3), 167-174 (2024).

[3] Mayer M. Artificial Intelligence and Human-autonomy Teaming in Military Operations. *Journal of Military Studies*, 12(1), 45-62 (2023).

[4] Dzindolet MT & Peterson SA & Pomranky RA & Pierce LG & Beck HP. The Role of Trust in Automation Reliance. *Human Factors*, 45(1), 19-38 (2003).

[7] Cummings ML. The Future of Human-AI Interaction in Military Decision-making. *Defense and Security Analysis*, 39(2), 144-158 (2023).

[8] Sparrow R. Robots and Respect: Assessing the Case Against Autonomous Weapon Systems. *Ethics and International Affairs*, 35(4), 411-430 (2021).

[9] Hoffman RR & Johnson M & Bradshaw JM & Underbrink A. Trust in Automation. *IEEE Intelligent Systems*, 28(1), 84-88 (2013).

[12] Gurel E & Tat M. SWOT Analysis: A Theoretical Review. *The Journal of International Social Research*, 10(51), 994-1006 (2017).

[13] Helms MM & Nixon J. Exploring SWOT Analysis -Where are We Now? *Journal of Strategy and Management*, 3(3), 215-251 (2010).

[14] Bowen GA. Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, 9(2), 27-40 (2009).

[15] Merrill MD. First Principles of Instruction. *Educational Technology Research and Development*, 50(3), 43-59 (2002).

8.2. Books

[16] Kolb DA. Experiential Learning: Experience as the Source of Learning and Development. Pearson Education (2015).
[17] Argyris C & Schön DA. Organizational Learning II: Theory, Method, and Practice. Addison Wesley (1996).
[18] Senge PM. The Fifth Discipline: The Art and Practice of the Learning Organization. Doubleday (2006).
[19] Yin RK. Case Study Research and Applications: Design and Methods (6th ed.). Sage (2018).
[20] Bryman A. Social Research Methods (5th ed.). Oxford University (2016).

8.3. Additional references

[2] Smith J & Roberts T. How to Think about Integrating Generative AI in Professional Military Education. Military Review Online Exclusive (2024).
[5] Maathuis C. Human-AI Co-learning and Cognitive Readiness in Modern Warfare. Military Learning (2025).
[6] Bode I. Reconstructing the Conditions of Human Agency in AI-Enhanced Military Systems. Ethics and Information Technology (2025).
[10] Raska M. AI and the Future of Military Education in the IDF. Small Wars (2023).
[11] Charlet K. AI-Enabled Wargaming and Strategic Decision-making in NATO. NATO Review (2022).
[21] U.S. Department of Defense. Artificial Intelligence Strategy: 2023 Update. Office of the Chief Digital and AI Officer (2023).
[22] Defence Science and Technology Laboratory (DSTL). Human Performance and Artificial Intelligence Research Programme. UK Ministry of Defence (2022).
[23] UK Ministry of Defence. Human-machine Teaming Framework. Defence Science and Technology Laboratory (2021).
[24] U.S. Department of Defense, Defense Innovation Unit. Project Maven and the Joint Synthetic Environment: Program Overview Report (2023).
[25] Ministère des Armées. IA et éthique Militaire: L'intelligence Artificielle dans la Formation des Officiers (2022).
[26] Japan Ministry of Defense. Defense Buildup Program 2023. MOD Policy Bureau (2023).
[27] Ministry of National Defense. Defense Innovation 4.0 White Paper. MND (2023).
[28] Government of the Republic of Korea. National Artificial Intelligence Strategy. Ministry of Science and ICT (2022).
[29] NATO. NATO's Principles of Responsible Use of Artificial Intelligence. NATO Headquarters (2021).
[30] OECD. OECD Principles on Artificial Intelligence. OECD Publishing (2019).

9. Appendix

9.1. Author's contribution

	Initial name	Contribution
Lead Author	YK	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑ -Make a significant contribution to collection ☑ -Final approval of the paper ☑ -Corresponding ☑ -Play a decisive role in modification ☑
Corresponding Author*	HL	-Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑

2025 Vol.10 No.0, 25-34 Received: 2025/09/02, Peer-reviewed: 2025/10/10, Accepted: 2025/10/27, Published: 2025/12/30

International Journal of Military Affairs

Publisher: J-INSTITUTE
ISSN: 2423-8775

Website: j-institute.org

Corresponding author*
E-mail: skcho@ikw.ac.kr

DOI Address:
dx.doi.org/10.22471/military.2025.10.0.25

A Scenario for South Korea's Nuclear Weapons Development Rooted between the ROK-US Alliance and Independent National Defense: The Prologue Begins with an Assassination

Sunggu Jo

Kyungwoon University, Assistant Professor, Republic of Korea

Abstract

Purpose: *This study assumes that a series of events—including the North Korean regime's continued nuclear weapons development amidst uncertainty, the strengthening of Russian-North Korean military cooperation following the Russo-Ukrainian War, US President Trump's approval of South Korea's nuclear-powered submarines (NSS) around the Gyeongju APEC Summit, and Japanese Prime Minister Takaichi's suggestion of military intervention in the event of a Taiwanese emergency—are all unfolding within the macroeconomic framework of US-China strategic competition. These shifting international political dynamics are rapidly destabilizing the security environment in Northeast Asia, highlighting the possibility of all-out war and the resurgence of past assassinations as real threats. By analyzing key assassination incidents in Northeast Asia, this study aims to reexamine the current security crisis within its historical and structural context and to forecast the future security order in Northeast Asia amidst the US-China conflict.*

Method: *This study is an English-language extension of a paper published in Korean. Based on the political background of terrorism and assassination cases that occurred in Korea in the original Korean paper, it additionally discussed the scenario of Korea's nuclear development.*

Results: *Terrorism tends to be perceived as a struggle against an enemy nation and enjoys public support. Therefore, assassination terrorism follows the following process: ① It begins with the psychological motivation that the target of the assassination is responsible for a certain situation, and ② If the target is eliminated, ③ the situation will no longer exist. ④ Once this motivation is confirmed, the process of carrying out the assassination mission is put into action.*

Conclusion: *This study analyzed assassination cases against the political backdrop of Northeast Asia and developed the relationship between security failures and national security. ① Domestic political turmoil and foreign policy failures lead to the assassination of national leaders. ② Such assassinations are attempted with the intention of regime change. ③ Such assassinations can escalate into all-out war. ④ War breaks out when the balance of military power in neighboring countries is disrupted, and assassination attempts occur before such events.*

Keywords: ***ROK-US Alliance, Self-Reliant National Defense, Asymmetric Power, South Korea's Nuclear Weapons Development, Assassination***

1. Purpose of the Study

At the end of the Joseon Dynasty, the Qing Dynasty, which had interfered in Joseon, declined, and Russia and Japan fought for hegemony. At the time, the Russian Empire argued that the area north of the 38th parallel in Joseon should serve as a buffer state between the Russian Empire and Japan to avoid conflict.

Based on this logic, following the Japanese colonial period and the United States' victory in the Pacific War, Japan's colonies fell under the American sphere of influence. Japan agreed to

*This article is an expanded and revised English version of an article originally published in Korean Police Studies Review, Vol. 17 no.2, 2018 in Korean. This English version has undergone review by the Editorial Board and double-blind peer review to enhance its international visibility.

establish a buffer state along the 38th parallel, in keeping with the Russian Empire's previous claim as an Allied power during World War I. Since then, numerous terrorist attacks have occurred on the Korean Peninsula, and a comprehensive threat now threatens national security.

Carl von Clausewitz defined national security, such as terrorism, as "an act or state of imposing one's will on another by any means, including military force, between opposing nations or groups of similar size." He also defined terrorism as "the continuation of politics, which eliminates the opponent's ability to resist and imposes one's will by force." Previous studies on this topic include Noh Byeong-ryeol (2003), who examined the scale and progress of North Korea's nuclear development in the Northeast Asian security environment and analyzed its impact on the political stability of the Korean Peninsula[1], Kwon Mu-hyeok (2005), who analyzed the changes in the US foreign policy after the 9/11 terrorist attacks and presented a new security strategy[2], Park Young-soo (2006), who analyzed the relationship between terrorism and the economy and discussed counter-terrorism policy[3], Dai & Hyun (2010), who analyzed North Korea's nuclear development and suggested that it is approaching it with a new concept of politics and culture of related countries[4], Plant & Rhode (2013), who analyzed the relationship between China and North Korea and argued that China's support policy for North Korea's nuclear development and the resulting impact of the topography of the Korean Peninsula[5], Lee Dae-seong and Ahn Young-gyu (2015), who analyzed that Northeast Asian countries have a high possibility of terrorism because they exert influence in various fields such as politics, military, and diplomacy in the international community[6], Lee (2016), who argued that North Korean defectors in South Korean society have expectations and The gap between real life and reality leads to violent crimes, and in extreme cases, terrorism can be used to express anger and frustration[7]. Han (2017) analyzed Kim Jong-un's personality and categorized countermeasures based on an analysis of North Korea's nuclear development and the threats posed by Northeast Asia[8]. Kim & Cohen (2017) argued that not only the United States but also South Korea and Japan should actively participate in a defense system against North Korea's possession of weapons of mass destruction, such as the use of nuclear weapons. They questioned whether North Korea would provoke neighboring countries with nuclear weapons and inferred how the United States, South Korea, Japan, and China would respond[9].

As such, it can be seen that extreme national security crises, such as war and terrorism, are ultimately closely related to politics, and such security crises have persisted in Northeast Asia. Therefore, this study analyzed the political background of the assassination from the perspective of the ROK-US alliance and independent national defense, the scenario of South Korea's nuclear development, and the meaning of asymmetric power in a buffer state within the larger picture of the US-China conflict, including North Korea's nuclear weapons development, the Russo-North Korean military alliance formed by the Russo-Russian War, US President Trump's approval of South Korea's nuclear-powered submarine at the recent Gyeongju APEC summit, and Japanese Prime Minister Takaichi's suggestion of Taiwan's military intervention.

2. China, Japan, and Joseon

2.1. The prelude to chaos in Northeast Asia: the assassination of Joseon's empress amid political turmoil

During the Sino-Japanese War, Joseon's central army, the Jangwiyeong allied with the Japanese army and fought against the Qing. However, the provincial army, the Wisubyeong led by the Pyongyang governor, is said to have allied with the Qing army and fought against the Japanese. Local forces in the Jeolla Province, allied with the Donghak Peasant Army, marched north to fight the Japanese, and it was Joseon's central army, allied with the Japanese, that defended them.

① In February 1894, the Donghak Peasant Army rose up and began to move north. ② Government troops dispatched from the central government began to be defeated. ③ Emperor Gojong requested the Qing Dynasty to send troops, but all ministers opposed it, citing the Treaty of Tianjin. ④ (However,) after Jeonju fell to the Donghak Peasant Army, Emperor Gojong requested the Qing Dynasty to send troops. ⑤ The Qing Dynasty notified Japan of its intention to send troops in accordance with the Treaty of Tianjin. ⑥ Japan landed its prepared troops at Jemulpo and seized Gyeongbokgung Palace with a surprise attack.

The Treaty of Tianjin was a treaty between Japan and the Qing Dynasty, stipulating that if the Qing Dynasty sent troops to Joseon, Japan would send its own troops and withdraw along with them. Thus, based on the Treaty of Tianjin, the Japanese army landed without fighting at the first defensive line. Around 1,000 Japanese troops attacked Gyeongbokgung Palace and engaged the Joseon guards. At the time, the Joseon army, armed with heavy weapons such as machine guns, possessed considerable firepower. However, when the Japanese army secured Emperor Gojong's body, Emperor Gojong ordered the Joseon army to surrender. This led to demands for internal reforms and the establishment of a pro-Japanese cabinet.

Subsequently, Emperor Gojong officially ordered the central army to join forces with the Japanese to fight the Qing army, but unofficially ordered local forces to advance toward Hanyang and engage the Japanese forces in the palace, further exacerbating the chaos. Ultimately, when Japan returned the Liaodong Peninsula to the Qing, Empress Myeongseong, who had pursued a pro-Russian policy, was assassinated. Emperor Gojong attempted to neutralize the pro-Japanese cabinet through pro-Russian diplomacy following the Russian Legation Retreat. However, Japan's victory in the Russo-Japanese War (February 1904–September 1905) earned international recognition for its leadership over Joseon. In 1907, Emperor Gojong dispatched a special envoy to the Second International Peace Conference convened by Tsar Nicholas II of Russia in The Hague, Netherlands, to expose the Eulsa Treaty as having been forced upon Korea by the Empire of Japan against the will of the Emperor of the Korean Empire and to attempt to have it nullified, but failed. Looking into the background of this incident, when the Qing Dynasty, which had been a major power in Northeast Asia, was defeated by Japan in 1895, the ruling powers of Joseon pursued a pro-Russian policy to check Japan, but the eventual victory of Japan in the Russo-Japanese War in 1905 played a very significant role[10][11].

2.2. A Joseon youth who assassinated Japanese political power in China

On October 26, 1909, Ahn Jung-geun assassinated Ito Hirobumi in Harbin, China, following intelligence that Ito Hirobumi was arriving in Manchuria for talks with Russian Finance Minister Vladimir Kokovtsov. Born on September 2, 1879, Ahn participated in the education movement and the national debt redemption movement before 1907, and after 1907, he participated in volunteer army activities in the Russian Empire. In 1909, he assassinated Ito Hirobumi, the first Resident-General of Korea, in Harbin, accusing him of being the mastermind behind the invasion of Korea. Born on October 14, 1841, Ito Hirobumi studied in England and embraced Western civilization, spearheading Japan's modernization. He spearheaded the Unyongho Incident in 1875, marking the beginning of Japan's invasion of Korea. In 1905, he forced the Japan-Korea Protectorate Treaty of 1905, degrading Korea to a Japanese protectorate. As the first Resident-General, he pushed for Korea's annexation.

Terrorism, as it is said to mirror the times, arises from political imperfection, and the threat of assassination increases regardless of the level of security[12][13]. Therefore, international politics, assassination, and the protection of key figures are intertwined.

2.3. The birth of Korea as a buffer state in Northeast Asia and the new beginning of the ideological war

Examining the political backdrop of this turbulent period, Japan's surrender to the Allied Powers on August 15, 1945, liberated the Korean Peninsula from World War II. However, political chaos and disorder descended into the Korean Peninsula. The United States and the Soviet Union met at the Yalta Conference (February 1945) to establish the Republic of Korea government in the south of the 38th parallel, which runs through the center of the Korean Peninsula, with American support, and the North Korean government in the north, with Soviet support. This led to intense ideological conflict and countless assassinations and terrorist attacks.

The Yalta Conference, held from February 4 to 11, 1945, in Yalta, Crimea, on the Black Sea coast of the Soviet Union, brought together the United States, the United Kingdom, and the Soviet Union to discuss the defeat of World War II and its management. South Korea's views were not reflected in the conference, and the Crimean Peninsula, where the conference took place, remains a key point in a new war between Russia and Europe. The assassinations arose from ideological conflicts, as the US and Soviet military regimes were divided into capitalist and communist regimes, respectively. The Soviet Union did not recognize the Provisional Government of the Republic of Korea, but recognized the North Korean People's Committee. The US, following MacArthur's proclamation, rejected the North Korean regime [14].

This conflict became even more active during the political turmoil following Korea's liberation. Representative terrorist groups included the right-wing group "Baekuisa" led by Yeom Dong-jin and the left-wing group "Uiyoldan" led by Kim Won-bong. Numerous assassinations for ideological reasons occurred during this period. Representative examples include the assassination of Song Jin-woo in his home in Wonseo-dong, Jongno-gu, Seoul, in 1945 by the left-wing youth Han Hyeon-woo; the assassination of Yeo Un-hyeong in Hyehwa-dong, Seoul, in 1947 by the right-wing youth Han Ji-geun; and the assassination of Kim Gu in his office, Gyeonggyojang, in 1949 by Ahn Doo-hee[15][16]. Yeom Dong-jin (February 14, 1902 – unknown), who led a right-wing group, was a Korean independence activist. He graduated from Seonrin Commercial School in March 1931 at the age of 29 and went into exile in China, where he graduated from Luoyang Military Academy in April 1935. He was arrested by the Japanese Kwantung Army at Sanseongjin in February 1936 and suffered blindness from torture. He served as the commander-in-chief of the secret anti-communist organization Baekuisa during the liberation period. When the Korean War broke out in 1950, he refused to evacuate and remained in Seoul, where he was captured by North Korean forces. His fate is unknown.

Kim Won-bong (September 28, 1898 – 1958), who led a left-wing group, was also a Korean independence activist. He founded the anarchist group Uiyeoldan in 1919. After graduating from the Whampoa Military Academy, he organized the Korean Volunteer Corps. In 1944, he was elected Minister of Military Affairs of the Provisional Government of the Republic of Korea. In 1946, he became the honorary chairman of the Korean Democratic Youth League (Chosun Mincheong), a red terrorist organization within the Korean Communist Party. In 1948, he defected to North Korea alongside Kim Gu after participating in inter-Korean negotiations and served as Vice Chairman of the Presidium of the Supreme People's Assembly. Later, on January 25, 1954, he was accused of being behind a spy ring dispatched to South Korea to disrupt the economy and disrupt elections. He was subsequently defeated in a political struggle with North Korea's Kim Il-sung in 1958 and purged.

Korea was liberated from Japan, but when Soviet troops began stationing in North Korea, Baekui-sa launched anti-communist terrorist operations. Kim Il-sung was a key target of Baekuisa's assassination. The assassination attempt by Baekuisa was to throw a grenade at Kim Il-sung, who appeared at the March 1st Independence Movement Day celebration held at Pyongyang Station Square on March 1, 1946. However, the grenade landed on the steps just below the podium where Kim Il-sung was speaking, and was picked up by Soviet Second Lieutenant Novichenko, who threw it in the opposite direction. The assassination attempt failed.

How would the history of the Korean Peninsula have changed if this assassination had succeeded?

Subsequently, on February 8, 1946, the Provisional People's Committee of North Korea was established, with Kim Il-sung as its chairman. In 1947, the UN proposed a general election on the Korean Peninsula, but North Korea rejected it. Therefore, in 1948, a general election was held in South Korea alone, leading to the election of the Constitutional Assembly and the first president. The government of the Republic of Korea was established on August 15. Following this, North Korea established the North Korean regime on September 9, with Kim Il-sung at its center.

3. The Ongoing Ceasefire, Persistent Terrorism, and Nuclear Weapons

Even into modern society, terrorism persisted. On October 8, 1983, South Korean President Chun Doo-hwan was assassinated at a national cemetery in Rangoon, Myanmar, the first stop on his six-nation tour of the Southwest Asia-Pacific region. Fortunately, President Chun was safe thanks to a deceptive security operation, but had he been assassinated, the ceasefire between the two Koreas would have inevitably escalated into full-scale war[17].

According to diplomatic documents released by the South Korean Ministry of Foreign Affairs in 2017, the daughter of a Myanmar judge involved in the trial surrounding the Myanma Aung San terrorist attack died mysteriously while studying in Japan, confirming evidence of North Korean involvement. In connection with the Aung San terrorist attack that killed 17 members of President Chun Doo-hwan's official entourage and press corps, the Myanmar government arrested two North Korean agents and sentenced them to death in December of the same year. The daughter of the judge presiding over the trial died while studying in Japan about a year and a half after the verdict, and a North Korean-made cigarette butt, smoked by the North Korean agent identified as the assassin, was found at the scene of the incident. Was this cigarette butt a mistake or a message of revenge? Also, looking at the incident where South Korea's First Lady Yuk Young-soo was assassinated by Moon Se-gwang (文世光) under orders from North Korea at a Liberation Day event in 1974, it is natural to point out that the fundamental cause of the security failure was the access control system that allowed Moon Se-gwang, a neatly dressed Korean resident in Japan, to bring a pistol into the event without arousing suspicion. However, the background to this is that then-US President Jimmy Carter planned the withdrawal of US troops from Korea with the Nixon Doctrine declaration, and the trauma of the Korean War breaking out on June 25, 1950, following the Acheson Line declaration on January 12, 1950, and the withdrawal of US troops from Korea, led the Park Chung-hee government to turn its attention to an independent national defense policy. It is a well-known fact that the South Korean government was secretly developing its own nuclear weapons[18].

What's crucial is that, from North Korea's perspective, if South Korea were to complete nuclear development first, North Korea, which didn't possess nuclear weapons at the time, would likely perceive a collapse in the balance of power in a military confrontation. Therefore, assassinating President Park Chung-hee was necessary to prevent nuclear development in advance. Assassinations typically occur when the balance of power is disrupted, or when it's certain to collapse.

4. The Implications of Asymmetric Power in Northeast Asia's Buffer States

As past examples demonstrate, terrorism, such as assassinations, often arises in situations of extreme conflict with neighboring countries. Northeast Asia, which surrounds the Korean Peninsula, is currently facing a constant crisis of conflict with neighboring countries, who feel threatened by North Korea's growing asymmetrical power, including its possession of nuclear weapons[19][20].

The Korean Peninsula has historically experienced national security crises, such as war, terrorism, and assassinations. This is due to the fact that surrounding powers have traditionally viewed the Korean Peninsula as a buffer state in Northeast Asia. In these buffer states, securing weapons of mass destruction, such as nuclear, biochemical, ballistic missiles, and nuclear-powered submarines, as asymmetrical powers, is perceived as crucial to national security. The recent international growth of South Korea's defense industry can also be understood in this context.

5. South Korea's Nuclear Armament Scenario

Our perspective on the Russia-Ukraine War is that "bad Russia invaded good Ukraine," but in realist international politics (Politics among Nations), it's interpreted as "strong Russia invaded weak Ukraine"[21][22].

Recently, the Trump administration invited President Zelensky to the United States for a live-streamed meeting. They criticized Zelensky's attire, which was seen as opposing a ceasefire after losing 20% of its territory, and demanded he express gratitude to the American people. The exchange was more like a YouTube entertainment show than a summit. Ultimately, the White House and the Republican Party demanded the resignation of Ukrainian President Zelensky and halted aid. If this situation was a planned strategy rather than a staged one, the shift in status quo driven by great power will accelerate in the international community. It also starkly demonstrates the US foreign policy stance that "pragmatism, not ethics, is the foundation of relationships." This US stance, while it promoted diplomatic relations with China during the Cold War to check the Soviet Union, can be seen as a strategy to check China through restoring relations with Russia in the current US-China hegemony struggle.

In the past, when the Cold War ended in 1990, Ukraine was the world's third-largest nuclear power, possessing 1,900 strategic nuclear weapons and 2,500 tactical nuclear weapons. However, under the leadership of the US, it voluntarily denuclearized, transferring its nuclear weapons to Russia in exchange for compensation and security guarantees of approximately 1 billion won per nuclear weapon. If Ukraine were a nuclear power, would Russia have been able to invade Ukrainian territory? And would the US have treated the Ukrainian president so lightly? If Ukraine's NATO membership is not permitted and the war ends as planned, Ukraine is expected to re-arm itself with nuclear weapons. However, if even this fails, we must not overlook the fact that the United States is in the process of creating a new enemy, just as the Muslim fighters left behind after the Soviet invasion of Afghanistan, aided by the US, and the withdrawal of the US, fueled hostility toward the US, leading to the 9/11 terrorist attacks. This creates the possibility of assassination.

If Ukraine is Europe's equivalent to a Buffer State, then Korea is geopolitically equivalent to it in Asia[23]. A recent survey by the Athletic Council, a US think tank, found that 40.2% of 357 security experts from 60 countries responded that the likelihood of South Korea arming itself with nuclear weapons was 100%. The three technologies required for nuclear armament are a detonator, a carrier, and nuclear material. The detonator has already been completed, and the Hyunmoo-5 missile, with a launch weight of 36 tons, has been successfully test-launched four times, with 100% success, and will be deployed in late 2024. The Hyunmoo-5 is not only equipped with a solid-fuel nuclear warhead capable of immediate massive retaliation, but is also evaluated to have enhanced launcher survivability through a cold launch method. Furthermore,

with a range of 5,500 km, it is an intermediate-range ballistic missile (IRBM), putting it within striking distance of not only Pyongyang but also most neighboring countries, including Beijing and Tokyo. The Hyunmoo-6, which will be unveiled next, is an intercontinental ballistic missile (ICBM) with a range of over 12,000 km. While it is likely to be introduced as a space launch vehicle, like the Naro and Nuri launch vehicles, to avoid unnecessary friction with neighboring countries, its technology is actually intended for use as an ICBM[24].

These efforts toward South Korea's independent defense are driven by the expectation that President Trump will meet with North Korea's Kim Jong-un after the end of the Russo-Russian War[25]. North Korea's nuclear weapons development, even at the risk of starving its own people, was developed as a pretext for protecting itself from US imperialist aggression. Therefore, the abrupt denuclearization threatens the regime's legitimacy, making denuclearization impossible without a transition to the Kim Jong-un regime. Furthermore, the US also faces the risk that its strong push for complete, highly denuclearized (CVID) North Korea could serve as a pretext for Kim Jong-un's nuclear provocations. Furthermore, the US has never fought a war with a nuclear power. Under these circumstances, if a second Trump administration negotiates a compromise that does not pursue complete denuclearization (CVID) but rather refrain from developing delivery vehicles (ICBMs, SLBMs) capable of reaching the US or further developing nuclear weapons, South Korean society will be forced into a strategic dilemma, unable to simply antagonize North Korea, a dictatorship that commits inhumane atrocities. Ultimately, while political forces within South Korea that support North Korea gain legitimacy by gaining justification, South Koreans, who live by the constitutional value of liberal democracy, may experience a completely different future through legal means. Furthermore, the US hegemony in Northeast Asia will also crumble.

Consequently, if the second Trump administration bypasses South Korea and engages with North Korea, the South Korean society will perceive the US-ROK alliance as having lost trust. South Korea will be forced to endure some degree of economic sanctions and conduct nuclear tests. Ultimately, restrictions on weaponization, such as uranium enrichment and reprocessing, under the IAEA, based on Article 10 of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), will also lose their force.

While the current ROK-US alliance is strong, the South Korean people already understand that all alliances have been broken historically, and no alliance should be relied on as a matter of faith. Therefore, South Korea's nuclear armament will be determined by the freedom and survival of the South Korean people, who cannot be subservient to external powers.

6. Suggestion

The struggle of a colonized people against imperialism tends to justify any means, and such terrorism often garners popular sympathy. Assassinations carried out for these political purposes follow the following procedure. ① It starts with the psychological motivation that the target of the assassination is responsible for a certain situation, and ② If the target of the assassination is eliminated, ③ such a situation will not exist, and ④ Once this motivation is confirmed, the procedure for carrying out the assassination mission is executed.

This study analyzed assassination cases against the political backdrop of Northeast Asia and developed the relationship between security failures and national security. ① Domestic political turmoil and foreign policy failures lead to the assassination of national leaders. ② Such assassinations are attempted with the intention of regime change. ③ Such assassinations can escalate into all-out war. ④ War breaks out when the balance of military power in neighboring countries is disrupted, and assassination attempts occur before such events.

Historically, assassination is the most representative method of terrorism, exemplified by the 1914 Sarajevo assassination. This assassination sparked World War I and led to World War II, the Cold War, the Middle East conflict, the invasion of Afghanistan, and even ISIS. How would history have unfolded if Gavrilo Princip's assassination attempt on Archduke Franz Ferdinand in Sarajevo in 1914 had failed?

7. References

7.1. Journal articles

[1] Noh BR. The Current Status and Impact of North Korea's Nuclear Development -Focusing on the Correlation with Political Stability in Northeast Asia-. *Journal of National Defense Studies*, 46(1), 29-62 (2003).

[2] Kwon MH. 9.11 Terror Attack and Its Implications on South-North Korean Relations: Concentrated on Triangular Relationship just After the Accident. *Korean Journal of Political Science*, 13(2), 335-362 (2005).

[3] Park YS. An Economic Analysis of Terrorist Activities. *East Asia: Comparative Perspective*, 5, 32-45 (2006).

[4] Dai J & Hyun K. Global Risk, Domestic Framing: Coverage of the North Korean Nuclear Test by US, Chinese, and South Korean News Agencies. *Asian Journal of Communication*, 20(3), 299-317 (2010).

[5] Plant T & Rhode B. China, North Korea and the Spread of Nuclear Weapons. *Global Politics and Strategy*, 55(2), 61-80 (2013).

[6] Lee DS & Ahn YK. Suggestion on the Convention for Anti-terrorism of North Eastern Asian Countries: Focusing on Tendency Analysis of Regional International Conventions. *Journal of Convergence Security*, 15(1), 19-26 (2015).

[7] Lee M. A Study on the Possible Terrorist Attacks using Improvised Explosive Device in Republic of Korea. *International Journal of Terrorism & National Security*, 1(1), 5-10 (2016). [Read More]

[8] Han M. A Psychological Interpretation on North Korea's Nuclear Program Issue: Focusing on Kim Jong-un's Personality Analysis. *International Journal of Military Affairs*, 2(1), 1-8 (2017). [Read More]

[10] Lee HJ. Gojong's Diplomatic Response Before and after the Eulsa Treaty and the Hague Peace Conference. *The Korea-Japan Historical Review*, 88, 59-88 (2025).

[11] Park D. The Cheongpa Diary and Confucian Resistance to the Eulsa Treaty. *Journal of Korean Literature in Classical Chinese*, 94, 401-433 (2025).

[13] Kim TY & Lee KT. An Empirical Analysis of the Head of State Terrorism: 1970-2019. *Korean Security Journal*, 69, 35-62 (2021).

[14] Kim DC. The U.S. Military Government and Korean Politics. *East Asia Cultures Critique*, 18(1), 199-224 (2010).

[15] Yang JS. Support of the Korean Independence Movement and Its Implications in Magyar, Hungary. *The Oriental Studies*, 77, 233-251 (2019).

[16] Jung BJ. Lyom Dongjin, Spy of Kwantung Army Kempeitai vs. Kim Hyuk, Independence Fighter: Cross Rancor of Alumni of Luoyang Military Academy and Origins of the White Shirts Society. *Critical Review of History*, 135, 289-331 (2021).

[17] Lee S. The Study on the Purpose and Effects of North Korean Rangoon bombing. *Discourse 201*, 19(3), 83-110 (2016).

[18] Lee SH. A Study for a Korean-Style Nuclear Sharing System: Theory and Practice. *Unification Policy Studies*, 32(1), 101-122 (2023).

[19] Lee JM. N. Korea's Nuclear Weapon and Regional Security in Northeast Asia: Quantitative Analysis about Nuclear State and Conflict, 1900-2000. *The Korean Journal of Area Studies*, 30(3), 149-176 (2012).

[20] Jung SC. North Korea's Foreign Policies and Its Triangular Relationship with the United States and China: Seeking the Status of a Nuclear Weapon State. *Journal of National Defense Studies*, 66(3), 1-22 (2023).

[21] Kim SJ. Russia-Ukraine War: Its Prospects and Impacts on Global Order. *Slavic-Eurasian Studies*, 38(4), 485-516 (2023).
[22] Lee SJ & Suh DJ. North Korea-Russia Closeness and Its Strategic Understanding after the Russia-Ukraine War. *Russian and East European Studies*, 34(1), 203-235 (2024).
[23] Choi JT. Analysis on the Changing Environments of Terrorism and the Responsive Direction against Terrorism for the Republic of Korea. *Crisisonomy*, 6(1), 64-81 (2010).
[24] Lee SJ. A Plan for Military Readiness Development of the North Korea Tactical Nuclear Missile Age. *Korea Maritime Security Review*, 5(2), 77-104 (2022).
[25] Chung JW. A Study of South Korea's Self-reliant Defense Policy in the Early 1970s: Focusing on the Arms vs. Alliances Theory. *National Strategy*, 30(3), 187-215 (2024).

7.2. Books

[9] Kim SC & Cohen MD. North Korea and Nuclear Weapons: Entering the New Era of Deterrence. Georgetown University (2017).
[12] Sageman M. Understanding Terror Networks. University of Pennsylvania (2004).

8. Appendix

8.1. Author's contribution

	Initial name	Contribution
Author	SJ	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑ -Make a significant contribution to collection ☑ -Final approval of the paper ☑ -Corresponding ☑ -Play a decisive role in modification ☑ -Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑

2025 Vol.10 No.0, 35-47 Received: 2025/09/05, Peer-reviewed: 2025/10/14, Accepted: 2025/10/28, Published: 2025/12/30

International Journal of Military Affairs

Publisher: J-INSTITUTE
ISSN: 2423-8775

Website: j-institute.org

Corresponding author*
E-mail: nicegift701@korea.kr

DOI Address:
dx.doi.org/10.22471/military.2025.10.0.35

Improvement Directions for Military Structure Reform Policy of the Lee Jae-Myung Administration

Junki Hong[1]
Konyang University, Professor, Republic of Korea
Sangjung Park[2*]
Korea National Defense University, Professor, Republic of Korea

Abstract

Purpose: *This article comprehensively diagnoses the changes in the defense environment confronting the Lee Jae-myung administration and proposes specific directions for a future-oriented military structure reform policy that should be pursued within its term.*

Method: *This qualitative and empirical study involved comprehensively analyzing and evaluating the changes in the defense environment facing the Lee Jae-myung administration by reviewing relevant prior research, laws, directives, and press releases, and then specifically presenting the direction of military structure reform policy that should be pursued within its term.*

Results: *The Administration's military structure reform policy can only achieve substantial enhancement of combat power and prepare for future warfare if three core reform tasks – optimization of military structure, transition of the Army's border surveillance mission, and rapid operationalization of Manned-Unmanned Team (MUM-T) systems – are pursued simultaneously as an integrated policy package.*

Conclusion: *This study proposed specific and implementable policy directions for future-oriented military structure reform to be pursued within the administration's term. Further research is needed to address additional military structure reform tasks, such as the transition of wartime operational control, arising from changes in the defense environment and not covered in this article.*

Keywords: ***Defense Reform, Military Structure, Standing Military Strength, MUM-T, Future Warfare***

1. Introduction

Modern states formulate and implement various policies to resolve numerous domestic and international issues. In particular, they pursue defense policies to protect national sovereignty, territory, and the lives and property of their citizens[1][2].

Science and technology, the concepts dominating our era, have brought unprecedented advancements to human well-being but have also created weapons capable of destroying humanity. States prioritize survival above all other objectives[3][4]. In the era of the Fourth Industrial Revolution, advanced science and technology are the most crucial drivers for states to ensure thier survival[5]. As intelligent information technologies, including Artificial Intelligence (AI), rapidly develop and innovative technologies are continuously applied to the defense sector, the reliance of weapon systems and military power on advanced technology is increasing. The outcome of future warfare will no longer be determined by a simple sum of troops and firepower. Instead, those who master data and preemptively secure strategic superiority derived from it will lead future battlefields[6][7].

On October 1, 2025, President Lee Jae-myung, in his speech for the 77th Armed Forces Day, emphasized the need for a strong self-reliant defense built upon high pride and firm trust in the defense capabilities. He clearly articulated the direction of defense reform, stating that the Republic of Korea (ROK) Armed Forces would be reorganized into a smart, elite, and powerful military that will lead future battlefields and secure victory. Several factors contibute to President Lee Jae-myung's emphasis on reorganizing the ROK military into a smart, elite, and powerful force: First, due to the ultra-low birth rate, the population structure, which forms the basis of military personnel, is rapidly changing, heightening a sense of crisis that it is difficult to maintain ROK's national security with the existing troop-dependent military structure. Second, the delay in optimizing the military structure by the previous administration has exacerbated troop shortages even in combat units, leading to a situation where short-term measures are no longer sufficient. Third, changes in the international security environment, such as the Russia-Ukraine war and heightened military tensions in the Middle East and East Asia, have further highlighted the necessity of preparing for future warfare based on Manned-Unmanned Team (MUM-T) systems. Fourth, while militarily advanced countries like the United States (U.S.), China, Russia, and Israel are rapidly transitioning their military structures based on advanced technology, it is challenging for the ROK military to secure international competitiveness and combat capabilities for future warfare without qualitative changes. Against this backdrop, President Lee Jae-myung officially declared, at the national level, a shift from a troop-centric, analog military structure to a smart, elite, and powerful military to strengthen self-reliant defense and lead future battlefields.

The military structure provides the most fundamental and important foundation for military power, thus serving as the entity and mechanism for practically implementing effective defense policies[8]. From this perspective, this study comprehensively diagnosed the changes in the defense environment currently faced by the administration and proposed concrete and implementable policy directions for future-oriented military structure reform to be pursued within the administration's term. The research method involved reviewing prior studies on military structure policy and specifically proposing policy directions focusing on the optimization of the current military structure, the transition of Army border surveillance missions, and the rapid operationalization of MUM-T systems for the ROK military. As shown in <Table 1> below, the analytical framework applied the changes in the defense environment and military structure policy directions in conjunction with the components of the military structure.

Table 1. Analytical framework.

Changes in the defense environment	Directions for military structure reform	Components of military structure
Chronic shortage of standing military strength	Optimization of military structure	Personnel structure, Unit structure
Delayed introduction of MUM-T systems	Rapid operationalization and introduction of MUM-T systems	Unit structure, Force structure
Inadequate design of long-term military structure 2040	Transition of the army's border surveillance mission	Personnel structure, Unit structure

To achieve the aforementioned research objectives, three research questions were selected.

First, prior studies related to military structure policy since the Roh Moo-hyun administration, when defense reform policies began in earnest, were reviewed to identify relevant research trends. Analyzing research trends concerning military structure policy is a crucial process for establishing the purpose and direction of this study.

Second, the current reality of the ROK military, as faced by the Lee Jae-myung administration, was comprehensively diagnosed. As reported by numerous media outlets, the ROK military is

experiencing a chronic shortage of standing military strength, and the introduction and deployment of MUM-T systems, which are becoming commonplace in militarily advanced nations worldwide, are being delayed. Furthermore, the long-term military structure design in preparation for future warfare is insufficient, leading to a diagnosis of the current situation.

Third, the study derived and presented the directions for military structure reform policy that must be pursued within the Lee Jae-myung administration's term to foster a smart, elite, and strong military.

2. Theoretical Background and Review of Prior Research

2.1. Theoretical background

The Ministry of National Defense (MND) defines a defense organization as the systematic totality of units or institutions where missions, structures, functions, and authorized strengths are organically combined to achieve national defense objectives[9][10]. The Joint Chiefs of Staff (JCS) defines military structure as the overall organization and composition of military forces relating to the performance of national defense and military missions, constituting a system in which each service is mutually related[11][12].

Military structure is composed of four main elements: command structure, unit structure, personnel structure, and force structure, all of which are closely interconnected through their interactions. The command structure is a system formed by command relationships extending from the MND and its directly supervised units, through joint units, to the subordinate units of each service, and is categorized into upper command structure and lower command structure. The upper command structure establishes command relationships among the MND, the JCS, and the headquarters of each service, while the lower command structure establishes command relationships between the JCS and echelons below the headquarters of each service. The unit structure classifies units into command and control units, combat units, combat support units, combat service support units, and education and training units to facilitate the effective deployment of combat power. It also organizes units and establishes command relationships in accordance with the operational concepts of individual echelons. The personnel structure refers to the system of human resources organized by branch or status within the military organization, and the force structure is a system that organizes appropriate levels of weapon systems and equipment for each echelon, considering available personnel and budget, to achieve military objectives and implement military strategic concepts.

2.2. Review of prior research

A review of prior research on military structure reform policies revealed numerous studies primarily focusing on their determinants and change factors. Kim Dong-han (2009) compared and analyzed the decision-making process of military structure reorganization policies, taking the Roh Tae-woo administration's 818 Plan and the Roh Moo-hyun administration's Defense Reform 2020 as cases[13]. This study was significant for elucidating how policy determinants operated in the policy-making process, but it had limitations due to restricted access to research materials, which consequently limited the scope of case analysis. Park Hwi-rak (2011) discussed the reorganization of the upper command structure promoted by the Lee Myung-bak administration and proposed measures to vitalize defense reform policies[14]. This research was meaningful for comprehensively analyzing the reorganization contents of the Defense Reform 307 Plan under the Lee Myung-bak administration, proposing its problems and desirable directions. However, it had limitations in that its approach was somewhat one-sided, rather than

covering diverse discussions. Park Jae-pil (2011) identified the main determinants of ROK military force buildup and analyzed the structure of debates and conflicts from the Park Chung-hee administration to the Lee Myung-bak administration[15].

This study was significant for its diachronic analysis of ROK military force buildup, comprehensively organizing topics that had previously been fragmented. However, it was limited by a somewhat restricted scope of analysis regarding military force development. Lim Wan-jae and Oh Young-kyun (2014) analyzed changes in military structure policy from the Roh Tae-woo administration to the Lee Myung-bak administration by categorizing change factors at institutional, structural, and agent levels from a historical institutionalist perspective[16]. This study was significant for elucidating how military structure policy changes occur through the interaction of these three change factors, but it had limitations in not adequately addressing the influence of informal actors or the micro-dynamics of the policy process. Kim Yeol-su (2018) identified determinants of military structure policy in response to changes in the defense environment and presented case studies of military structure policy from the Roh Moo-hyun administration to the Moon Jae-in administration[17]. This study was meaningful for analyzing the changing directions of military structure reorganization based on each administration's threat perception and defense environment changes, and proposing future alternatives. However, it had limitations in not analyzing unofficial factors in the actual policy implementation process. Kim Gap-jin (2022) identified determinants of military structure policy in response to changes in the defense environment and presented case studies of military structure policy from the Roh Moo-hyun administration to the Moon Jae-in administration[18]. While this study comprehensively analyzed military structure policy across four administrations, it was limited by a mere descriptive enumeration. Kim Dong-sam (2022) identified determinants of military structure based on future environmental changes and proposed a military structure reorganization plan centered on military strategy[19]. This study was significant for predicting future military strategies for the ROK and proposing military structure reorganization linked to them, but it had limitations in not analyzing the practical constraints of policy implementation within a changed future environment.

The preceding research on military structure reform policies reviewed above mainly analyzed the military structure policies of past administrations or proposed directions for future military structure policies in preparation for future warfare from a long-term perspective. However, there was a lack of research on military structure reform policies that a new administration must pursue within its term. Therefore, this study comprehensively analyzed and evaluated the changing defense environment currently faced by the Lee Jae-myung administration and specifically presented the direction of military structure reform policy that the administration should pursue within its term.

3. Changes in the Defense Environment Faced by the Lee Jae-myung Administration

3.1. Chronic shortage of standing military strength

The ROK military has pursued military structure reform policies reflecting the changing defense environment, irrespective of their political inclinations (conservative or progressive), across four administrations, from the Roh Moo-hyun administration, which enacted the Defense Reform Act in 2006 and officially launched defense reforms, until the Moon Jae-in administration. The Roh Moo-hyun administration sought to transition from a troop-centric military structure to one focused on advanced technology, based on future warfare projections and the case of the Iraq War. From then on, the ROK Standing Military Strength was reduced by approximately 180,000 personnel, decreasing from 678,000 in 2006 to a size of 500,000 by the end of 2022, over four administrations until the Moon Jae-in administration[20]. In addition, the Lee Myung-bak administration, advocating for efficiency in defense management, consolidated or merged

similar and overlapping support units within each service and streamlined intermediate command levels, thereby reducing manpower and budget[21][22]. The Park Geun-hye administration pursued a gradual reduction of Standing Military Strength to 522,000 by 2022, while strengthening lower-level unit structures (battalion level and below) for practical combat effectiveness and promoting the conversion of positions requiring long-term proficiency and expertise to non-commissioned officers. The Moon Jae-in administration selected and implemented military structure tasks feasible within its term, including reducing Standing Military Strength to 500,000 by 2022, and applying key technologies of the Fourth Industrial Revolution across all defense sectors.

This policy stance continued for 16 years, spanning four administrations from the Roh Moo-hyun to the Moon Jae-in government. However, the Yoon Suk-yeol administration showed very low interest in military structure optimization, even while establishing new commands such as the Strategic Command and the Drone Operations Command. Although the Yoon Suk-yeol administration pursued the Defense Innovation 4.0 policy with the goal of fostering an AI science and technology-driven strong military, it did not include any of the 16 innovation tasks related to military structure optimization that previous administrations had pursued[23]. As a result, as extensively reported by numerous media outlets, the ROK military wasted three valuable years, leading to a spreading phenomenon of chronic Standing Military Strength shortages and a large-scale exodus of officers, resulting in a significant manpower deficit even in combat units.

3.2. Delayed introduction of manned-unmanned teaming (MUM-T)

In the fourth year of the ongoing Russia-Ukraine War, militarily advanced nations, including Russia and Ukraine, have actively demonstrated Manned-Unmanned Teaming (MUM-T) tactics. These involve combining various unmanned combat systems—such as drones, unmanned vehicles, and robots—with manned combat systems to enhance combat efficiency and survivability.

Ukraine, possessing overall military power inferior to Russia, has proactively leveraged support from the United States and Europe, along with its own precisely guided weapons and drones, to conduct precision strikes on key Russian military targets and infrastructure since the war's outset. Russia, in turn, is actively responding with MUM-T tactics, incorporating support from countries like Iran and North Korea. As a prime example, in early December 2024, the 13th Brigade of the Ukrainian National Guard deployed its Unmanned Systems Forces, established in mid-2024, to engage Russian forces in the Kharkiv region—reportedly the first instance of its kind[24].

This engagement was reported as the first case where Unmanned Ground Vehicles (UGVs) and reconnaissance/suicide drones were deployed as a single unit for combat operations. Russia is also exerting significant pressure on Ukraine's defenses through a drone revolution[25]. The emergence of unmanned combat units, such as 'Rubicon' (The Rubicon Center for Advanced Unmanned Technologies) in Russia, is cited as a prime example of the Russian military adapting to a rapidly changing battlefield environment by moving away from rigid combat methods. Furthermore, on November 12, 2025, Russia established the Military Command dedicated to Unmanned Aerial Systems, comprised of unmanned aerial systems. This unit consists of personnel for operating unmanned combat systems, engineers, and other support staff. According to the Special Competitive Studies Project, a U.S. think tank, Russia's aggressive adoption of technological innovation is transforming its military into a more capable and threatening force that could pose a risk to Europe.

The Yoon Suk-yeol administration initiated the phased establishment of MUM-T to reflect the evolving warfare paradigm observed in the Russia-Ukraine War. However, this initiative has, to date, remained largely at the pilot unit operation level for each service, essentially maintaining the military structure of the Moon Jae-in administration. Militarily advanced nations such as the

U.S., China, and Israel have already actively introduced and are operating MUM-T within their combat units. They are also rapidly applying new advanced weapon systems through quick field trials, directly utilizing the results to promptly incorporate military-proven weapons and civilian technologies into their forces. Notably, China, in anticipation of future warfare patterns revealed in recent conflicts, reformed its military structure into a future-oriented one. Nine years after establishing the Strategic Support Force in December 2015, it disbanded the force in April 2024, creating separate branches for the Information Support Force, Military Space Force, and Cyber Force[26][27]. Despite witnessing these examples from foreign militaries, the ROK military remains largely entrenched in the view that MUM-T is a medium-to-long-term task, leading to delays even in the introduction of individual advanced weapon systems.

3.3. Inadequate design of long-term military structure 2040 for future warfare

The long-term military structure 2040 design for future warfare was formally initiated during the Moon Jae-in administration. Following its Defense Reform 2.0 policy, the Moon Jae-in administration recognized the necessity of the long-term military structure 2040 design, aiming for 2040, considering that military structure reform takes a long time. At that time, the MND reorganized existing departments within the Defense Reform Office into the Future Defense Planning Officer and Defense Innovation Technology Officer to integrate efforts and align directions toward the operationalization of AI and unmanned combat systems. Consequently, under the leadership of the Future Defense Planning Officer, initial research on the long-term military structure 2040 was conducted for two years, primarily involving the MND, JCS, each military service, and relevant research institutions, leading to the publication of the foundational analysis report for the long-term military structure 2040. This foundational analysis report synthesized and organized research results by military structure sector, intending to serve as a basic foundation for the long-term military structure 2040 design even under subsequent administrations.

In addition, aiming for 2050, the MND researched and published 'Defense Vision 2050' for one year to present response directions for the future security environment on the Korean Peninsula and within the region. This publication reflected a blueprint for future defense, including a forecast of the future defense environment beyond the next 30 years, preparation for future warfare, a future defense vision, and implementation plans.

The Yoon Suk-yeol administration criticized the Moon Jae-in administration's Defense Reform 2.0 policy as short-term, and subsequently pursued the mid-to-long-term Defense Innovation 4.0 policy, also targeting 2040[28]. Specifically, while asserting that the military structure reform of the Defense Reform 2.0 policy focused on quantitative reduction such as decreasing Standing Military Strength and the number of units, the Yoon Suk-yeol administration's military structure policy aimed to gradually establish MUM-T and build a foundation for efficient operationalization of unmanned systems. The long-term military structure 2040 design was actively pursued under the leadership of the MND from the first half of 2023. However, due to conflicts of interest within the military and a decline in coordination functions caused by organizational restructuring within the MND at the time, it failed to produce an agreed-upon result, thus not reaching the completion of a concrete plan[29].

4. Directions for Military Structure Reform Policy of the Lee Jae-myung Administration

4.1. Promoting the optimization of the ROK military's cumbersome military structure

The ROK military currently maintains an apparent Standing Military Strength of 500,000, but as of July 2025, this has decreased to 450,000. The Army, characterized by a troop-

centric military structure, experienced a reduction of 100,000 personnel over six years, from 429,000 in 2029 to 324,000. Consequently, the MND significantly relaxed the active-duty assessment criteria from 81.2% in 2020 to 86.7% in 2025 to mitigate the ROK military's troop shortage. However, this measure had limited effectiveness due to a drastic decline in the number of individuals undergoing military service examinations.

Despite this severe situation, the Yoon Suk-yeol administration, unlike previous governments, did not actively pursue policies for military structure optimization. While the government's commitment to military structure optimization should have been included as a key task in the Defense Innovation 4.0 basic plan, the MND at the time, under the pretext of pursuing mid- to long-term defense policies, did not implement related policies. This led to a chronic shortage of Standing Military Strength and a rapid decrease in the manning rates of even combat units.

Therefore, the Lee Jae-myung administration is faced with an urgent situation requiring the optimization of the ROK military's cumbersome military structure, which is the fundamental cause of the Standing Military Strength shortage, within its term. To optimize this cumbersome structure, the efficiency of defense management, which was strongly pursued by the Lee Myung-bak administration despite internal military opposition, must be actively implemented. The MND is already conducting organizational diagnostics for each service headquarters, aiming for a 20-30% reduction in personnel. This personnel reduction should not be limited to service headquarters. Large-scale organizational diagnostics should be conducted across direct and joint units, as well as units directly under each service and operational and functional commands. This aims to decisively integrate and abolish similar or overlapping units and significantly increase civilian personnel to replace active-duty soldiers in non-combat areas. Even dedicated overseas deployment units, which are all organized as Standing Military Strength except for some civilian military personnel, cannot be exempt from this military structure optimization [30]. The ROK military's dedicated overseas deployment units, such as the International Peace Support Unit under the Special Warfare Command and the 1115 Engineer Battalion under the 2nd Operational Command, are designated and operated as units capable of deployment within one month of mission assignment. The Roh Moo-hyun administration, which began defense reforms in earnest, maintained a Standing Military Strength of 681,000 in 2005 and could manage up to approximately 3,300 overseas deployments annually. However, from the Park Geun-hye administration onward, considering the scale of Standing Military Strength, this level was maintained at under 2,000 personnel[31]. Currently, the ROK military, suffering from a chronic shortage of Standing Military Strength, should seize the opportunity of the withdrawal of the Dongmyeong Unit from Lebanon at the end of 2026 to significantly reduce Standing Military Strength through the reorganization of dedicated overseas deployment units, thereby reinforcing combat units, including the Special Warfare Command. Furthermore, the ROK military should consider transitioning its dedicated overseas deployment units from an Army-centric, personnel-intensive structure to a technology-intensive joint force capable of performing multidimensional missions as required by the UN. The multidimensional missions emphasized by the UN refer to comprehensive peacekeeping activities encompassing not only traditional military and security operations but also humanitarian assistance, human rights protection, and post-conflict recovery[2][32].

4.2. Promoting the rapid MUM-T operationalization

In its October 2025 parliamentary audit report, the MND announced plans to introduce Manned-Unmanned Teaming (MUM-T) to streamline command organizations by linking them with the development of AI and Command and Control (C2) systems. It also reported intentions to reduce manpower by utilizing MUM-T in GP/GOP (Guard Post/General Outpost) and coastal

surveillance, as well as other security sectors, and to enhance the ROK military's capabilities by forming MUM-T units tailored for each service and echelon [33].

The Yoon Suk-yeol administration pursued the phased establishment of MUM-T by organizing pilot units within each service as part of its Defense Innovation 4.0 policy. At that time, the MND aimed for a three-stage establishment, considering technological advancements: remotely controlled, semi-autonomous, and the expansion of semi-autonomous with a transition to autonomous. Currently, it is in the second (semi-autonomous) pilot phase, with pilot units designated and operated by each service. While the phased establishment of MUM-T offers the advantage of achieving completeness in weapon systems, its operationalization by echelon is time-consuming. This protracted timeline limits the timely transition to a military structure adequately prepared for future warfare due to the rapid obsolescence of advanced technology.

MUM-T can be broadly categorized into three types: for combat units, for border surveillance units, and for other security units. MUM-T for combat units is being pursued through the Army's Army TIGER, the Navy's Navy Sea GHOST, and the Air Force's AI and Kill-Web-based MUM-T. Compared to militarily advanced nations such as the United States, China, and Russia, the ROK military still primarily pursues operationalization centered on high-cost, large-scale, and manned weapon systems. In September 2023, U.S. Deputy Secretary of Defense Kathleen Hicks, in a press conference, proposed the Replicator Initiative as a measure to innovate and deploy new capabilities that could sustain America's dominance in the military domain [34]. The initiative, as presented by Deputy Secretary Hicks, aims to achieve overwhelming battlefield superiority through the mass production of low-cost, small, unmanned weapon systems—as if replicating them—by applying advanced technological changes. This approach is intended to change the game with America's unparalleled originality that China's military modernization cannot imitate, enabling the U.S. to imagine, create, and master future warfare. Considering these U.S. innovation examples, the Lee Jae-myung administration must not follow the phased approach of the previous administration, which aimed to achieve completeness in MUM-T for combat units through pilot unit operations before expanding them to regular combat units. Like the Replicator Initiative promoted by the U.S., the Lee Jae-myung administration should rapidly introduce advanced low-cost, small, unmanned weapon systems in large quantities, proven militarily necessary through rapid piloting by each service. These should then be deployed to combat units, enabling even small units to implement new combat methods suitable for future warfare.

For border surveillance units, field trials are underway, categorizing systems into GP/GOP border surveillance systems and AI-based coastal surveillance systems. The GP/GOP border surveillance systems are progressing faster than those for combat units, with pilot testing expected to conclude within a few years, making the establishment of GOP Guard Brigades feasible within the current administration's term. While a phased establishment plan for GOP Guard Brigades—starting with guard battalions, then transitioning to guard regiments, and finally to guard brigades—could be considered, this approach risks delaying the establishment of GOP Guard Brigades by corps and consequently postponing the full application of MUM-T to Standing Military Strength divisions. Therefore, rather than a phased establishment, GOP Guard Brigades should be formed directly as corps-level brigades immediately after pilot completion. AI-based coastal surveillance systems are also capable of being applied to all coastal surveillance and mobile battalions under the 2nd Operational Command within a few years. In conjunction with this, the previously mentioned transition of coastal surveillance missions can be piloted in specific coastal areas within the Lee Jae-myung administration's term. For other security purposes, covering command and base security for all Army, Navy, and Air Force units, early introduction is necessary given the potential for significant Standing Military Strength reductions across all services.

4.3. Promoting the transition of the army's border surveillance mission

The Roh Moo-hyun administration, while pushing to reduce the ROK military's Standing Military Strength to 500,000, promoted the transition of coastal surveillance missions (previously handled by the Army) to other agencies to ensure the Army could concentrate on combat missions. This border surveillance mission transition policy was reflected in the Defense Re form Act to ensure its consistent pursuit by subsequent administrations. Most reform tasks stipulated in the Defense Reform Act, enacted by the Roh Moo-hyun administration in 2006, were completed by successive administrations up to the Moon Jae-in administration. However, the reform task pertaining to Article 28 of the Defense Reform Act (Transition of Border Surveillance Missions for Coasts, etc.) was not implemented. Article 28 stipulates that border surveillance missions performed by the military for coasts, ports, airports, national facilities, and specific security areas shall be transitioned to law enforcement agencies or the agencies managing and operating the respective facilities[35]. With the rapid future demographic changes in ROK leading to the ROK military's Standing Military Strength potentially falling below 350,000, it will no longer be possible to carry out border surveillance missions at a similar level to the present. Furthermore, given that large-scale Army standing divisions and local defense divisions are currently deployed for GP/GOP and coastal surveillance missions, these missions cannot be sustained for a military structure reorganization applying future MUM-T.

The transition of coastal surveillance missions was initially pursued as a time-based approach from the Roh Moo-hyun administration in 2006. However, it was revised to a condition-based approach in the Defense Reform Basic Plan 2014-2030 (Amendment No. 1) at the end of the Park Geun-hye administration and continued to be reflected as a key task in the Defense Reform Basic Plan until the Moon Jae-in administration[36][37]. Subsequently, as explained previously, the Yoon Suk-yeol administration, due to its low interest in military structure optimization, did not include any tasks related to coastal surveillance mission transition in the "Defense Innovation 4.0 Basic Plan" for the first time since the Roh Moo-hyun administration, halting further policy development.

Along with the coastal surveillance mission transition[38], Article 28 of the Defense Reform Act also stipulates the transition of border surveillance missions for ports, airports, national facilities, and specific security areas. The security units corresponding to these include military support units for the Presidential Security Service and units responsible for Incheon International Airport and specific security areas. President Lee Jae-myung, in his 21st presidential campaign pledge, promised to reduce military and police personnel supporting presidential security and return them to their primary duties. This was a task almost never discussed by any previous administration, marking the first time it was reflected as a policy agenda in a presidential campaign pledge since the nation's founding, thereby creating the conditions for substantive policy implementation. The Army's border surveillance mission transition can now be actively pursued based on the Lee Jae-myung administration's will for military structure reform, following the defense reform policies initiated by the Roh Moo-hyun administration. The Army's border surveillance mission transition is a core task that forms the foundation for implementing the long-term military structure 2040, and it must be actively pursued by the Presidential Office from the early stages of the Lee Jae-myung administration to achieve tangible results in the next government.

5. Conclusion and Policy Implications

The ROK's demographic cliff, expected from the mid-2030s, is an already determined future. Since 2022, the ROK's total fertility rate has remained below 0.7, after falling to 0.98 in 2018. As military service resources are based on the male population aged 20, the children who will serve

in the ROK military in 2044 were already born in 2024. Accordingly, the Standing Military Strength for 2040 is approximately predicted to be between 300,000 and 350,000 personnel, from the perspective of troop supply.

The Lee Jae-myung administration has recognized the ROK's rapid population decline as a national challenge and announced its active pursuit of military structure reform policies to preemptively respond to changes in the rapidly evolving defense environment. Key contents include establishing a defense reform roadmap for fostering a smart, elite, and strong military, restructuring defense personnel to overcome the shortage of military service resources, enhancing advanced capabilities such as AI-based Manned-Unmanned Teaming (MUM-T), and reducing personnel through the scientification of current operations like GP/GOP border surveillance. These contents primarily outline the direction of military structure reform policy from a mid- to long-term perspective, but the specific military structure reform policies to be pursued within the Lee Jae-myung administration's term have not yet been concretely presented. Considering that the Moon Jae-in administration's Defense Reform 2.0 policy also distinguished between military structure reform tasks achievable within its term and long-term tasks, the Lee Jae-myung administration's defense reform policy also needs to be pursued in two directions.

The Lee Jae-myung administration's military structure reform policy should not be understood as a mere reduction in Standing Military Strength, but rather as the creation of future-oriented military capabilities through a qualitative transformation that aligns with changes in the future battlefield environment, amidst the structural changes of ROK society symbolized by ultra-low birth rates and an aging population. The chronic troop shortage currently faced by the ROK military is not simply a result of reduced troop numbers, but rather a direct consequence of a combination of factors, including the continued troop-centric military structure, rigid unit organization, and limited introduction of advanced technology, leading to a weakening of combat units' actual combat power. Now is the time for the ROK military to boldly shift from a personnel-centered quantitative military structure to an intelligent military structure centered on combat units, combining advanced technology and civilian capabilities.

Therefore, this study proposed three major military structure reform tasks that must be pursued within the Lee Jae-myung administration's term to address these challenges.

First, the optimization of the ROK military's cumbersome military structure into an agile and responsive one must be prioritized. To achieve this, military structure reform policies must move beyond the traditional approach that equates them with a reduction in Standing Military Strength. Instead, they must conduct structural verification of joint and direct units, units under each service, and operational and functional commands to precisely diagnose overlapping functions and needs. Simultaneously, the consolidation or merger of similar organizations and the expansion of civilian personnel replacement and outsourcing in non-combat areas must be pursued. This military structure optimization holds strategic significance as it not only supplements the short-term personnel shortage but also lays the foundation for an intelligent military structure centered on combat units, which is demanded by future battlefields.

Second, a policy to gradually transition the Army's excessive burden of border surveillance missions will be a core driving force for military structure reform. The Army's border surveillance missions have continuously constrained the Army's structural transformation, which should focus on force development and the introduction of MUM-T. The transition of border surveillance missions, as stipulated in Article 28 of the Defense Reform Act, will not only solve the problem of Standing Military Strength shortages but also provide an institutional foundation to promote the transition to an advanced technology-based military structure. In particular, by linking this policy with its past presidential campaign promises, the Lee Jae-myung administration has secured the political and institutional conditions to actively pursue this policy for the first time,

enabling it to achieve differentiated outcomes compared to previous administrations' defense reform policies.

Third, the rapid operationalization of MUM-T is a crucial pillar of military structure innovation for future warfare. Although the Yoon Suk-yeol administration pursued a phased approach centered on pilot units, future warfare is rapidly evolving towards mass production and deployment of low-cost, small, unmanned forces through replication. Therefore, the Lee Jae-myung administration must move away from a gradual, completeness-oriented approach and establish a speed-centric operationalization system that proceeds through rapid piloting, verification of military necessity, mass production/introduction, and deployment to combat units. In particular, the GP/GOP and coastal surveillance sectors are key areas where advanced technology can be applied relatively quickly, making it possible to achieve visible reform results within the government's term.

Synthesizing the three military structure reform tasks explained above, the Lee Jae-myung administration's military structure reform policy will only achieve substantial reinforcement of combat power and preparation for future warfare if Standing Military Strength and unit structure optimization, the transition of the Army's border surveillance missions, and the rapid operationalization of MUM-T are pursued simultaneously as an integrated policy package. These three pillars are complementary, and it would be difficult to complete the ROK military's transition to a future warfare-ready military structure with only one of them. Ultimately, this direction for military structure reform will contribute to transforming the ROK military into a sustainable combat unit-centric intelligent military structure amidst the structural crisis of Standing Military Strength shortages and rapidly changing battlefield paradigms, and creating a future-oriented ROK military model suitable for an era of population decline.

This article comprehensively diagnosed the reality of the ROK military facing the structural challenges of the ROK's demographic cliff and evolving future warfare paradigms. It proposed military structure optimization, the transition of the Army's border surveillance missions, and the rapid operationalization of MUM-T as an integrated package, thereby suggesting concrete and implementable policy directions for future-oriented military structure reform that should be pursued within the Lee Jae-myung administration's term. It is anticipated that subsequent research will additionally propose military structure reform tasks, such as the transfer of wartime operational control, arising from changes in the defense environment and not covered in this study.

6. References

6.1. Journal articles

[2] Jeong I. A Study on the Effectiveness of ROK Military Mobilization Division as a War Deterrence Function: Focusing on Mobilization Troop. *International Journal of Military Affairs*, 7(2), 1-9 (2022). [Read More]

[4] Cho H. International Legal Discussions and Trends on Autonomous Weapon Systems. *International Journal of Military Affairs*, 9(0), 24-31 (2024). [Read More]

[7] Gonzalo G & Park S & Cho H. Prospects for New Wars in the 21st Century. *International Journal of Military Affairs*, 6(3), 43-53 (2021). [Read More]

[12] Park S & Cho H. Major Issues and Response Strategies of UNC's Revitalization. *International Journal of Military Affairs*, 8(0), 15-24 (2023). [Read More]

[13] Kim D. A Study on the Policy Making Determinants of the Military Reorganization. *Korean Political Science Review*, 43(4), 351-377 (2009).

[14] Park HR. An Analysis on Higher Command Structure of the ROK Military and Recommendations for the Defense Reform. *National Strategy*, 17(4), 79-104 (2011).

[15] Jeon S. Through the Perspective Theory Veto Player Defense Reform: A Comparison Study on the Roh, Moo-hyun and Lee, Myoung-bak Administrations of Defense Reform. *Korean Journal of Political Science*, 31(4), 1-25 (2023).
[16] Lim W & Oh Y. A Case Study on the Change Factor of the Military Structure Policy. *Korean Society and Public Administration*, 24(4), 53-80 (2014).
[17] Kim YS. Military Structure Reform of Each Korean Government: Evaluation and Alternatives. *New Asia*, 25(4), 191-215 (2018).
[19] Kim DS. A Study on the Future Force Structure of the Korean Military. *Journal of Patriots and Veterans Affairs in the Republic of Korea*, 21(4), 9-40 (2022).
[20] Hong J & Park S. A Study on Securing Standing Military Soldiers of Republic of Korea in the Future Ultra-low Birth Rate Era. *Military Development Research*, 18(1), 103-126 (2024).
[22] Kim T. Defense Reform Plan 307: Goals and Challenges. *Korean Journal of Political Science and Diplomatic History,* 34(2), 347-378 (2013).
[26] Hong J. Analysis and Implications of Restructuring of the Chinese Military under Xi Jinping Era: Focusing on Units for Future Warfare. *Military Development Research*, 19(2), 29-50 (2025).
[27] Ki S. A Study on China's Military Reform and Modernization. *Journal of Chinese Studies,* 43(3), 7-45 (2019).
[28] Ma SH & Choi BO. The Study of Policy Change in National Defense Innovation 4.0: Focusing on Kingdon's Multiple Stream Framework. *Korean Journal of Military Affairs*, 14, 97-124 (2023).
[29] Hong J. A Critical Examination of the Defense Innovation 4.0 Policy: Legal and Institutional Perspectives. *The Journal of Social Convergence Studies*, 9(3), 13-24 (2025).
[31] Hong J & Park S & Nam S. A Study on Changes in Future Defense Environment and Structural Development of ROK Overseas Dispatched Units. *Military Development Research*, 18(2), 141-173 (2024).
[32] Hong J & Park S & Nam S. Measures to Expand the Participation of Female Soldiers in UN Peacekeeping Operations(PKO). *Military Research and Development*, 19(1), 131-159 (2025).
[36] Park M. A Suggestions on the Coastal Guard Mission Transfer Policy based on Conditions. *Strategic Studies*, 29(1), 339-377 (2022).
[38] Seo C. A Study on the Policy Development of Coastal Security Mission to Coast Guard: Focusing on the Reestablishment of Operational Concepts and Command Relationships. *Korean Association of Maritime Police Science*, 12(3), 100-124 (2022).

6.2. Thesis degree

[10] Park J. A Study on the Major Determinants and Contested Structures in the Formation of Korean Military Power. Chungnam National University, Doctoral Thesis (2011).
[18] Kim K. Determinants and Characteristics of the ROK Military Structure Policy. Gyeongnam University, Doctoral Thesis (2022).

6.3. Books

[1] Han Y. The Logic of Our National Defense. Parkyoungsa (2019).
[3] Kissinger H. Henry Kissinger's World Order. Minumsa (2016).
[5] Mearsheimer J. How States Think. Seohae Munjip (2024).
[6] Oh S. Metapower: Future Military Power in the AI Era. Medici Media (2025).
[8] Lim GS & Kim KS & Kim GJ & Bae DH & Song HS & Kim SK & Ahn GS & Kim SB & Ahn SK & Kim JE & Lee HS & Ryu KH & Jung JR & Park CW & Cheon MK & Park CG & Choi SD & Park HS & Choi IS. Introduction to Defense Policy. Korea Institute for Defense Analyses (2020).
[11] Joint Chiefs of Staff. Joint and Combined Operations Glossary of Military Terms. Joint Military University Doctrine Department (2023).
[21] Ministry of National Defense. Defense Reform for Fostering Elite Advanced Strong Forces, Together with the People. Ministry of National Defense (2009).
[23] Ministry of National Defense. Defense Innovation 4.0. Defense Publishing Support Group. (2023).

6.4. Additional references

[9] Ministry of National Defense. Regulation on Defense Organization and Personnel Management (MND Instruction No. 2772) (2023).
[24] RBC-UKRAINE. Ukrainian National Guard Soldiers Conduct First Robotic Operation (2024).
[25] CNN. Russia's Drone Revolution Heaps Pressure on Ukrainian Defenses (2025).
[30] Ministry of National Defense. Regulation on Overseas Deployment Operations of the ROK Armed Forces (MND Instruction No. 2964, Partially Revised) (2024).
[33] Ministry of National Defense. Business Report Material for the 2025 National Assembly Audit. (2025).
[34] Garamone J. Hicks Discusses Replicator Initiative. U.S. Department of Defense Official News Article (2023).
[35] Act on Defense Reform (Act No. 19073, Partially Revised) (2022).

7. Appendix

7.1. Author's contribution

	Initial name	Contribution
Lead Author	JH	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑ -Make a significant contribution to collection ☑ -Final approval of the paper ☑ -Corresponding ☑ -Play a decisive role in modification ☑
Corresponding Author*	SP	-Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑