# A Study on the Evaluation and Development of Welfare Policy for Soldiers Using AHP

By

JANG, Yuji

## **THESIS**

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

MASTER OF PUBLIC POLICY

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Approval as of May, 2022

#### **Abstract**

A Study on the Evaluation and Development of Welfare Policy for Soldiers Using AHP

: Centering on the Honor Guard of the Ministry of National Defense

By

JANG, Yuji

The Republic of Korea is adopting a conscription system due to financial reasons, added with the reality of Korea being a divided country that must actively respond to North Korea's direct provocations and threats caused by their uncertain, volatile system. This implies that since the Korean military is operated on the premise of a conscription system based on national defense obligations, active-duty soldiers are forced to continuously adapt it environments rapidly changed by external forces. In the process, some experience maladjustment, or become either serious perpetrators or victims of toxic culture existing in barracks such as bullying, suicide, violence and unjust behavior. Accordingly, the Ministry of National Defense promoted several military welfare policies with the basic agenda to fundamentally resolve the repeating problems in the barracks.

However, despite the steady efforts of the Ministry of National Defense, the level of soldiers' feelings for improving treatment is low because the Korean military has led the policy from the supplier's point of view without trying to properly grasp the welfare needs of soldiers based on professional methods. Therefore, this study attempted to recognize welfare needs

from the perspective of beneficiaries by examining what welfare policies are mainly preferred by active-duty soldiers using AHP research techniques.

As a result of the AHP survey, the most preferred policy for active-duty soldiers was to expand the usage of smartphones (0.377), followed by a policy (0.145) that supports soldiers with approximately 100,000 won for self-development activities. On the other hand, their least preferred policy was the policy to support haircuts expenditures for soldiers (0.007). This is because there was no opportunity to use private salons amid continuous restrictions on going out or vacation due to COVID-19. In other words, welfare programs that have no utility value for soldiers only wastes the budget, and this study emphasizes that for the efficient execution of a limited budget, the survey of beneficiaries' needs must precede the establishment of welfare plans.

Furthermore, this study proposes two alternatives for more efficient execution of the welfare budget. The first is to increase the autonomy of active-duty soldiers' welfare choices. By providing cashable welfare, not in kind, the system needs to be improved so that active-duty soldiers can each choose more necessary welfare. The second is to prepare various contents that can use a smartphone. Simply extending smartphone usage time should be avoided as it can be a risk to the military's original purpose of national defense. However, for example, contracts with companies that provide e-book rental services can provide welfare so that soldiers can experience various cultural lives with smartphones during off-work hours. Preparing various contents using smartphones can be an alternative to more efficiently utilizing the welfare budget in that it can provide non-exclusion and non-economical welfare benefits.

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#### 1. Introduction

#### 1.1. Background of the Study

It can be said that the sacrifice of active-duty soldiers has a different meaning than anything else. This is because life that requires most of the service period to be spent only on military grounds restricts human freedom, which is the most fundamental desire. In particular, it is clear that it is quite bearing to spend a few years of their early 20s - which is regarded as the golden age of life - with people they have never seen before in a hierarchical military organization. But unfortunately, despite the difficulties of military life, our society tends to be too ignorant to the grievances faced by Korean soldiers. This is the outcome of Korea's social custom of taking the army service of a Korean man for granted, therefore under-appreciating the grievances of soldiers. The ignorance of soldiers' hardships, which exists inside both in and out of military grounds, leads to the soldiers' loneliness and service maladjustment and in worse cases, even suicide.

The Netflix series 'D.P.' (abbreviation for Deserter Pursuit), which highlighted this ignorance, received accolades for showing the dark side of the military transparently. The vivid portrayal of the soldiers' lives not only evoked sympathy, but also gave viewers — who were not subject to compulsory military service — a glimpse of the absurd toxicity underlying in military customs. It also had the effect of evoking a new social awareness by realistically illustrating the difficulties within the unit that were euphemized by half-hearted humor about the army service in existing TV entertainment programs. As the public's interest regarding the grievances of the military and soldiers was garnered through the popular Netflix series, the issue of improving soldiers' treatment began to emerge as an important social issue in various media and political circles.

In response to these sudden social demands, the Ministry of National Defense – for the first time - gave a public explanation that it had been making continuous efforts to improve military environments to eradicate barracks irregularities. However, toxic customs occurring in military units across the country continued to be brought to surface on various social networks. The hardships of soldiers such as sexual harassment, poor meals, as well as physical violence and harsh acts, which were ignored and hushed for a long time began to be brought to light. Coincidentally, the day after the Ministry of National Defense issued the explanation, it was belatedly reported that a private committed suicide after being severely bullied by his seniors in the Navy. Although it is clear that as times change, more soldiers are serving in the military in a much better environment than before, but it has been proven to be a reality that there are still many soldiers moaning in absurdity somewhere.

The reason why the issue of improving the treatment of soldiers is important is that the troops is the basis of the national defense force. Regardless of East and West, defense force has been one of the most important factors for the existence of a country. When the country was in chaos and its existence was at stake by neighboring forces, countries with prepared defense force were finally able to defend their sovereignty, but countries that did not do suffered greatly or the misfortune of disappearing from history. The defense force consists of troops, weapons systems, military strategies, and support systems. Among them, troops, which are human factors, are the subject of various equipment operations and the cornerstone of all military missions, so they can be said to be the core of the defense force. Therefore, it is necessary to improve the treatment of troops who are the main body of national defense, in particular, to expand the military welfare system, recognizing that national development and security are only possible when strong military power is secured.

On the other hand, active-duty soldiers of the millennial generation are accustomed to being guaranteed their individuality, independence, and autonomy because they spent their

adolescence in a society where the value of diversity is emphasized, difficulty adapting to military society with contradictory characteristics such as uniformity, order, and coercion (Lee, J. W., 2015). Of course, not all millennials show problems or maladaptation in the process of adapting to military life, and individual differences will certainly exist depending on their growth background or socialization experience before the military. However, the environment in which they were raised and educated will be quite different from the collectivist values and beliefs that the military culture is oriented to, and as a result, there is always the possibility that they will become stressed and lead to maladaptive behavior in military life.

In sum up, the necessity of this study is as follows.

It is clear that the poorer the conditions for military service, the greater the risk that the morale of the soldiers will decline. Therefore, the government should improve their treatment and promote national defense force by establishing high-quality military welfare policies based on accurate diagnosis. In particular, the military culture and growth environment of millennials, who make up the absolute majority of active-duty soldiers, are quite heterogeneous. It is necessary to study what welfare systems they truly need so that millennials, the driving force of the future society, can finish their military lives healthy and return to society.

#### 1.2. Purpose of the Study

The Republic of Korea military had no choice but to focus on strengthening its power as it faced a long-term confrontation with a powerful provocative group amidst a hostile relationship between systems and ideologies, unprecedented in the world. For this reason, welfare policies have been planned as a second priority due to a limited budget and have been somewhat neglected (Lee, G. G., 2020). And considering the current security situation in Northeast Asia,

it is highly likely that this budget arrangement will continue in the future. A significant amount of the defense budget will be continuously invested in the mid to long-term to secure strategic assets to improve the core military capabilities of the Korean military, such as the additional introduction of the F-35, and the introduction of light aircraft carriers for the Navy in preparation for all-round security threats. This proves that it can still be difficult to inject a huge budget for simultaneous resolution of various maladaptive factors of active-duty soldiers.

However, unlike the budget for developing and securing advanced weapons systems, which causes an increase in national defense power in proportion to the input budget, the needs of the beneficiaries act as a more important variable in welfare policy than the size of the input budget. For example, as of July 2020, our military has fully accepted the welfare policy that allows soldiers to use smartphones after work. Thanks to this, some personnel who suffered mental pain and difficulties due to the controlled barracks life cut off from society experienced positive changes in the level of depression, anxiety, and alienation after using a smartphone (Ministry of Defense, 2019). The above policy, which only permitted the use of smartphones owned by the soldiers, had a positive effect on the soldiers' adaptation to the military life and their satisfaction without excessive budgeting. In other words, the above case proves that if only the needs of beneficiaries can be met with a small budget, it can result in more effective policies.

In the meantime, the current welfare policy of the military has been planned based on the wants of the military without considering the needs of the soldiers who are the beneficiaries (Kim, Y. G., & Kim, J. E., 2016). It is in the same vein that studies related to military welfare policies have been conducted in response to the demands of the military, that is, the realization of national tasks for political purposes. These two concepts, 'wants' and 'needs', seem to have similar meanings, but need to be clearly distinguished in terms of quality and performance. Most of the fields that occupy the defense budget, such as weapons development, are developed assuming a virtual enemy, so it is reasonable to promote them to satisfy the general wants of

the military. However, the soldier welfare policy should focus on maximizing combat power by raising the morale of the current army, rather than focusing on a hypothetical enemy that will become a threat in the future. One way to increase morale is to meet the needs of beneficiaries.

Therefore, the purpose of this study is to identify the welfare needs of active-duty soldiers who are beneficiaries in order to maximize the efficiency of the indispensable limited welfare budget, and to prepare the basic data necessary to suggest future tweezers policies. In other words, the purpose of this study is to propose a policy basis that can ultimately be reflected in the fiscal year by selecting the welfare policies preferred by active-duty soldiers. The state seeks to achieve national goals through policies, and budgets are usually organized according to the importance of national goals recognized by the state (Shin, H. G., & Woo, C. B., 2018). So, this study goes further by comparing and analyzing the preferences among the welfare policies within the military that the soldiers responded and the proportion of each policy in the defense budget in 2021, to determine whether the current welfare policy base of the Ministry of National Defense is prepared by accurately recognizing and integrating the difficulties of the soldiers. This presupposes that there is a significant correlation between the military's policy preference and the military maladjustment factor they feel (Jeon, G. Y., Kang, W. S., & Lee, J. G., 2018).

In order to carry out the purpose of this study, the following questions are raised.

**First,** what factors act on the new-generation's maladaptation to military life?

**Second,** among the existing major military welfare policies, which welfare policies are preferred by active-duty soldiers?

**Third,** is the proportion of the budget allocated to each welfare policy proportional to the policy preference of the above men? In other words, was the limited budget efficiently invested?

If the policy preference of soldiers and the proportion of the budget allocated to each welfare policy in the defense budget for 2021 have a proportional relationship, this means that the existing military welfare policy has the right direction in resolving the maladjustment factor of active-duty soldiers. However, if the proportionality between the two is not clear, it will be necessary to check the policies that are spending too much money compared to the needs of the beneficiaries, and to readjust the welfare budget according to the preferences of the soldiers. This research process, which identifies their needs and prepares policy alternatives, is expected to contribute to raising the national defense force in the end by reducing the waste of the national treasury within the limited defense budget and further improving the service conditions of active-duty soldiers.

## 1.3. Method of the Study

In spite of the steady efforts to improve the welfare of the military, the level of feeling for the improvement of the soldiers' welfare is low because the military has not tried to properly understand the needs of the soldiers and has led the policy from the supplier's point of view. Therefore, the main focus of this study is to understand the needs of the beneficiaries, soldiers, and to make efforts to effectively satisfy them by examining what welfare policies are mainly preferred by active-duty soldiers. Recognizing that their welfare needs stem from the maladaptation factors they experience in the military, Focus Group Interviews (FGI) were conducted with sergeants from active-duty in advance to preemptively identify major maladjustment factors. And based on this, a questionnaire was constructed. The reason that the prior FGI was conducted on sergeants from active-duty military service is because they were commissioned as officers after serving as soldiers for nearly two years, so they have both the perspectives of soldiers and officers.

The survey of this study was conducted with about 231 active-duty soldiers of the Honor Guard belonging to the Ministry of National Defense Service Support Group. The Honor Guard of M.N.D. is a unit located in Yongsan-gu, Seoul, and The Army, Navy (include Marine Corps), and Air Force all belong to the same unit. The most distinctive feature of this unit is that all three of the above groups are performing the same job of supporting national events. In other words, unlike general military units, where the positions of each soldier vary even though they belong to the same unit, and the satisfaction of military life may vary depending on their positions, the Honor Guard has the characteristics that the living conditions of the soldiers are almost the same as all members are performing similar duties. However, there are limitations. While most of the ROK forces are located in the front or the outskirts of the city, this unit is almost the only unit based in the capital Seoul, so the satisfaction and maladaptation factors of its soldiers may be less representative.

The survey for research was constructed using Analytic Hierarchy Process research techniques. AHP is an optimal tool to support decision-making by analyzing the priority or importance of two or more alternatives. In this study, **Layer 1** derived weights between maladaptive elements preemptively identified through prior FGI, and **Layer 2** absolutely measured the preference between policies by placing welfare policies that had actually been implemented in the above-mentioned Honor Guard for the purpose of resolving each maladaptive element. The preference for the final welfare policy was derived by calculating the total weight by multiplying the weight between the maladaptive factors that layer 1 soldiers considered as the most urgent problem by the value of layer 2. The preference among welfare policies derived in this way was compared and analyzed by comparing the weight of the welfare budget allocated to each policy, and it was finally verified whether the budget was being put in efficiently in response to the needs of the soldiers.

#### 2. Literature Review

#### 2.1. Significance and System of Military Welfare Policies

## 1) Meaning and Significance of Military Welfare

Military welfare is a total of salaries, facilities, and services that meet mental and material needs of military organization members, their families, and qualified discharged soldiers to improve combat power and secure and maintain excellent personnel (Ministry of Defense, 2009; Tak, Y. S., 2013). The main targets of military welfare policies are active soldiers such as officers, non-commissioned officers, soldiers, and immediate families of officers and noncommissioned officers, and veterans who served for more than 10 years and discharged from military.

Military welfare contributes to the improvement of the military's combat power by 1) ensuring that soldiers are faithful to their original mission of maintaining combat readiness and combat power. 2) The level of welfare of the military also expresses the strong will to protect the state and symbolizes public support for the military. In addition, 3) it contributes to the creation of an active military service culture by inspiring pride in fulfilling military service obligations for mandatory military service soldiers. In other words, military welfare plays an important role in recruiting excellent personnel and making them serve for a long time by increasing the military's professional attractiveness in the fierce manpower competition market (Ministry of Defense, 2009).

In the case of military welfare systems in developed countries, national remuneration systems for military remuneration are developed in the United States and the United Kingdom, and allowances systems are well established in consideration of military occupational specificities such as separation, children's education difficulties, job risk, and difficulty (Lee,

H. Y., 2012; Tak, Y. S., 2013). In the case of the housing sector, the government is interested in and supporting difficulties caused by the characteristics of military occupations such as moving and separation. In addition, it provides daily necessities for military bases and overseas soldiers at low prices. In the case of family support, there are legal and institutional guarantees for military family support, including support measures for raising children and separated families at the national level. In the field of recreation and leisure, legitimate rights are guaranteed, and welfare support elements in terms of culture and leisure are abundant.

## 2) System of Military Welfare

The Framework Act on Military Welfare in Korea was enacted as Act No. 8731 on December 21, 2007, in accordance with the need to establish a systematic military welfare policy that can improve and stabilize the lives of soldiers. The Framework Act on Military Welfare requires the establishment of a basic plan along with a survey on military welfare every five years to reflect changes in the welfare environment. The "Military Welfare Basic Plan" established accordingly forms a consensus in and out of the military on the reality of military welfare, contributes to securing public support and finances for future military welfare development directions and projects, and serves as basic guidelines for the establishment of welfare policy plans. In other words, the Military Welfare Basic Plan is a policy plan that should be organically cooperated and implemented by relevant ministries at the government level, and is the basis of each military welfare execution plan.

The military welfare policy goes through a total of six stages, such as government agenda setting stage - policy analysis stage - policy decision stage - policy execution stage - evaluation stage - feedback stage, just like the general defense policy decision process, and is cycled to the new government agenda setting stage (Kim, Y. G., & Kim, J. E., 2016). The most important of these is to distinguish the root and local causes of a policy problem well and to identify the

root cause. This is because, only when the cause is accurately diagnosed, fundamental or long-term goals among policy goals can be set well (Han, Y. S., 2012). Accordingly, the Ministry of National Defense is conducting a military welfare status survey to diagnose the cause of the policy problem, but in this process, little survey on the needs of beneficiaries for military service members was conducted. In welfare policy, the needs of beneficiaries are directly related to the identification of policy issues. In other words, applying the needs survey technique to accurately grasp the welfare needs of beneficiaries is the most basic and core task in the policy analysis stage. However, our military's welfare policy weighs only on the political purpose of realizing the national task, and the analysis and reflection of military soldiers' needs, which can be said to be the essence of military welfare, are not properly carried out.

## 2.2. '18 ~ '22 Military Welfare Basic Plan and Welfare Budget

The Ministry of National Defense established and confirmed the '18~'22 Military Welfare Basic Plan under the goal of "realizing a national defense that is proud of military service and trusted by the people." It consists of 26 sub-tasks in three areas: soldier welfare, officer welfare, and common welfare. Among them, the welfare of soldiers is divided into four areas: "fair compensation", "employment support", "self-development", and "improvement of service conditions" in detail as shown in <Table 1>. The '18-'22 Basic Plan for Military Welfare is to be established for the third time following the enactment of the Framework Act on Military Welfare, following 2009 and '13, and this plan was established in connection with the president Moon Jae-in government's National Philosophy and National Tasks.

< Table 1> Detailed Promotion Tasks for Soldier Welfare

	Annual Increase in Salary for the Soldiers (National Task)	
Fair Compensation	Increase in Disability Compensation for Soldiers	
ran Compensation	Expansion of the National Pension Service Credit	
	for Military Service	
Employment Support	Reinforcement of Career / Employment Support Programs for	
Employment Support	Compulsory Service Members	
	Providing Uninterrupted Learning Opportunities between	
Self-Development	Military Service (National Task)	
Self-Development	Build a barracks that Read Books	
	Expansion of Opportunities to Experience Culture & Art	
	Improvement of Barracks Dormitories, Meals, and Clothing	
	(National Task)	
	Expansion of Support for Substitute Work for Military Service	
	Expansion of Soldier Smart Phone Use	
Improvement of Service	Simplified Procedures for Using Private Hospitals for	
Conditions	Active-Duty Soldiers	
	Guaranteed Conditions for Indoor & Outdoor Sports Activities	
	in the Barracks	
	Improvement of Cyber Knowledge Information Room	
	(PC Room) Operation	

Among them, the budget invested in major welfare policies that are actually being implemented by the Honor Guard of Ministry of National Defense and that the vast majority of soldiers are aware of or have experienced welfare benefits are as follows.

## 1) Salary Increase for Soldiers

According to the implementation plan of the national task, the salary for the FY 2021 was raised to 45% of the 2017 minimum wage. As a result, the budget increased by KRW 221.7 billion compared to the previous year, but due to the reduction of the number of soldiers (-26,624 person), the final budget increased to KRW 131.6 billion. As a result, the standard monthly salary for a sergeant was raised from KRW 540,900 (in 2020) to 608,500 (in 2021).

#### 2) Increase in Meals and Clothing Quality

In order to improve the quality of meals, which is a national task, the unit price of meals was increased by 3.5% compared to the previous year. As a result, the cost of meals per person

per day increased from KRW 8,493 (in 2020) to 8,790 (in 2021). However, due to the reduction in the number of soldiers (-26,624 person) like the salary increase item, the added budget decreased to KRW -19 billion compared to the previous year. Then, in July of 21st, when the controversy over inadequate meals arose among the soldiers, the Ministry of National Defense invested an additional budget of about KRW 75 billion, and the unit price for meals per person per day was KRW 10,000.

An additional budget of KRW 75.2 billion was invested compared to the previous year for the clothing cost by reflecting the needs for expanding supply standards, improving quality, ensuring survivability of wartime soldiers, and improving combat power. As the above budget is added, two combat shirts, which were provided once in the summer, will be provided in the future, and additionally padded winter jumpers will be provided to the soldiers.

In addition, to improve the sanitary conditions of the soldiers and to prevent the spread of the COVID-19 in group life, items and payments for personal hygiene products have been expanded. This is an increase of KRW 27.2 billion from the previous year.

#### 3) Military Human Resource Development Education

The budget for the implementation of the national task "Expanding opportunities for self-development and support during military service" has also been increased. The "soldier self-development activity subsidy" to meet various needs for self-development during military service increased by KRW 15.5 billion compared to the previous year. The above policy is a policy that provides up to KRW 100,000 in subsidies per person to help soldiers develop themselves, such as applying fees for various certificates and language tests, purchasing books or hobbies. The number of beneficiaries was 80,000 in FY 2020, but the number of beneficiaries increased to 235,000 in FY 2021.

#### 4) Cultural Activities

The budget was increased by KRW 2.1 billion compared to the previous year by expanding the need for various cultural experience activities to ensure the soldiers' right to enjoy culture and to improve their service conditions. In detail, KRW 700 million was increased for the expansion of visiting cultural and artistic performances (expanded beneficiary range from 24% to 34%), and KRW 800 million was increased for the expansion of the 'Jinjung library.' The camp library is a kind of policy to create a barracks library that provides books so that soldiers can share and read them by purchasing the books they want instead.

## 5) Improving the Hair Cut Method

The budget for improving the existing soldier haircut method, which used to perform mutual haircuts by designating barbers between soldiers, was newly reflected. The above policy aims to pay KRW 10,000 each month to individual accounts so that soldiers can actively use private hair salons.

#### 2.3. Factors of Maladjustment to Military Life of New-Generation Soldiers

Maladaptation refers to failure to overcome environmental obstacles that impede an individual's physiological and psychological needs and to not adapt well to changes in the environment. Soldiers with a clear personality and strong individualistic elements have a psychological aspect that is difficult to adapt with the military, which is characterized by the oppressive structure. When a soldier fails to adequately respond to these oppressive demands from the military and reveals various problems, it can be called "military maladjustment" (Kim, N. S., 2018). Conflict arises as a result of conflicts between individual needs and military discipline and order. But while most soldiers adapt their personal thoughts and feelings to the

external environment by integrating them with the external environment, a few soldiers suffer difficulties and cannot resolve the anxiety caused by the conflict.

#### 1) Personal Characteristics Factors

In the midst of the abundance that being able to have whatever new-generation want due to the rapid economic development, our society is providing them with more autonomy than ever before. In addition, as the number of single-child families increases, they are a generation with strong self-esteem who grew up with overprotection from their parents rather than learning developmental processes such as community and hierarchy from siblings.

Therefore, new-generation feel that life in the barracks is unreasonable and inconvenient, and they feel skeptical of life in the feeling of being constrained (Na, S. C., 2013). In other words, they may show a phenomenon of maladaptation due to damage to self-esteem when they are restricted in their autonomous humanity or sociality in a military culture that emphasizes hierarchicalism and collectivism.

#### 2) Psychological Factors

Stress is an important factor influencing modern people's health and organizational adaptation, and it has a very large impact on the general organization of society as well as the military organization. Thus, stress in the barracks is highly likely to lead to extreme behavior of soldiers. It is relatively difficult to solve such stress in the unit compared to the general society, which can cause maladaptation.

Active-duty soldiers are under the stress of a controlled life because they have to live in units cut off from society for about two years, and interpersonal conflicts and privacy restrictions that occur during group life also acted as a significant stress source for the soldiers (Koo, S. S., 2006). In addition, according to a study examining personal influencing factors

affecting military adaptation, career burden after discharge were found to be important factors causing stress in the military (Ahn, Hyun-nie., Sohn, Nan-hee., Lee, Mun-hee., & Seo, Eunkyoung., 2007).

## 2.4. Review of previous studies

Military welfare should have a comparative advantage over social welfare in the private sector, given the level of compensation and the specificity of military jobs due to the military's excessive restrictions on the basic rights of the people (Seo, H. S., & Ryu, H. W., 2008). However, despite legal and policy efforts to improve military welfare, whenever militaryrelated accidents become an issue, our military's welfare policy is criticized for not being able to resolve the primary needs of beneficiaries. The representative cause of this phenomenon is that the Basic Act on Military Welfare and the Basic Plan Establishment of Military Welfare are rarely applied. A fragmentary example is the case in which the Ministry of National Defense announced that it would overhaul the 50-year-old military meal system only after the 51st Division's poor meal became known on Facebook in April 2021 and the issue of treating soldiers became controversial nationwide. Even the audit result revealed in the future that 748.2 billion won, which is almost half of the county's total school meal budget of KRW 1.6 trillion, was over-arranged in the budget for army officials' residential facilities (The Board of Audit and Inspection of Korea, 2021). In other words, while the Military Welfare Basic Plan was being established for the third time, the result of the welfare policy focusing only on the realization of the supplier's wants and the government task while putting aside the needs of the beneficiaries is the poor meal controversy that made the Republic of Korea uproar in 2021.

The studies related to military welfare policy before this study also showed a tendency to focus on fact-finding surveys in line with the needs of the military as above, or to focus only on general military social welfare policy proposals. For example, Cho, H. S. (2009) presented specific legal tasks after considering the content and legal nature of the Framework Act on Military Welfare and the future direction of development of the Framework Act on Military Welfare, but it was a study focused only on legal interpretation and far from investigating needs through soldiers.

The most emphasized point of the studies that dealt with the military social welfare policy aspect is that social workers in the military should be deployed and the military social welfare education course should be introduced at the same time. As a study related to this, Lee, J. W., & Ryu, H. W. (2006) searched for a way to link academia and military for the development of military social welfare and training of military social workers. They emphasized the need to discuss the educational process and practical education considering the military environment. In addition, Seo, H. S., & Ryu, H. W. (2008) suggested systematizing military social welfare practice methods, establishing the concept of military social welfare and setting academic scope as tasks for the development of military social welfare subjects at universities. What these studies have in common is that they recognize the various needs of welfare beneficiaries and suggest the placement of social workers in the military as a way to resolve their welfare needs. However, there is a limitation in that the necessity of scientific and regular survey of the needs of beneficiaries is not finally presented, and the discussion remains in the policy proposals based on the actual situation.

There were also some studies that discussed the needs of beneficiaries. Representatively, Kim, Y. G., & Kim, J. E. (2016) point out that what should be paid attention to for maximizing the performance of welfare policy is not "wants", which is a quantitative requirement, but "needs" in a qualitative sense to link the satisfaction of the beneficiary. Thus, they emphasized the investigation of needs at the stage of policy establishment. However, there was a limit to reliability. This is because the sample was limited to naval officers, even though the subject of

the study was the "Military Welfare Basic Plan," which affects the entire military. Jeon, G. Y., Kang, W. S., & Lee, J. G. (2018) presented a plan for the development of women's welfare based on the female soldiers' welfare preferences derived using the AHP research technique. In the process, it was confirmed that the beneficiaries showed a high preference for the welfare field, which is insufficiently implemented by the organization. However, the above study was also limited to officers and non-commissioned officers, especially female, and was far from the welfare needs of the soldiers.

Prior to this study, research on tracing needs mainly focused on the needs of executives (officers, non-commissioned officers), so research on active-duty soldiers was relatively lacking. Therefore, this study analyzes the needs of active-duty soldiers for the military welfare policy, focusing on the preference of the beneficiaries of the soldiers, and connects the results with the budget to suggest ways to maximize the performance of the next policy.

## 3. Study Design Using AHP

## 3.1. Analytic Hierarchy Process (AHP) Theory

## 1) Usability and Characteristics of AHP Theory

The AHP theory is a technique devised by Professor Thomas L. Saaty of the University of Pennsylvania in the United States in 1970. It is a method inspired by the fact that humans go through stages such as hierarchical structure, estimating relative importance, and securing logical consistency when making complex decisions. AHP is a multi-criteria analysis technique in which, when a decision problem consists of multiple evaluation criteria, the evaluation criteria are first stratified, and then the importance is determined according to the layers.

Research using AHP includes the following usefulness and characteristics (Koo, J. H., Kim, Y. J., Lee, S. Y., Kim, D. H., & Baek, J. Y., 2019). First, it solves the decision-making problem through stratification. Problems are solved sequentially by setting "Goal" at the top layer, "Criteria" at the lower layer, and "Alternatives" for evaluation at the bottom layer. Second, the relative importance is estimated through pairwise comparison between elements. A 9-point scale is often used in this process. Third, both qualitative and quantitative factors can be reflected at the same time. In the case of decision making that is difficult to analyze quantitatively, not only quantitative factors but also qualitative factors can be reflected based on the intuitive and rational evaluation of evaluators. Fourth, it is possible to compare and integrate factors with different scales. Fifth, the logical consistency of the evaluators' judgments can be verified. Accordingly, the reliability of the survey results can be increased.

As such, AHP has the advantage that it is easy to identify the problem by stratifying and subdividing the decision-making problem, and the reliability of prioritization is very high because error information can be excluded through the consistency test of the comparison

results between elements. However, AHP has a disadvantage in that if a new alternative is added or if there is an error in the evaluation criteria, the survey must be conducted again from the beginning. And since all evaluation criteria assume mutually independent relationships, applicability is poor when evaluation criteria are interdependent in the same layer. In addition, when the number of classes or evaluation factors increases, the number of pairwise comparisons increases exponentially, and when the number of alternatives is 10 or more, the number of pairwise comparisons increases rapidly, making the survey difficult.

## 2) Procedure of AHP Analysis

In order to derive priorities using AHP, a total of 4 steps of analysis should be performed (Saaty, 2008). Step 1 is the most important step in AHP, and it is the step of decomposing the decision-making problem into interrelated hierarchical structures to establish a decision-making hierarchy. The number of layers in setting up a structure depends on the complexity of the problem and the level of detail the decision maker needs to solve the problem. Saaty (1980) suggests setting up to 9 elements in each layer for pairwise comparison, but this is not a necessary condition. In step 2, the importance or preference of decision-making factors is evaluated through pairwise comparison. Through this, it is possible to evaluate how relatively important certain evaluation criteria are relative to other evaluation criteria in achieving a higher level. Pairwise comparison should proceed sequentially from the upper layer.

Step 3 measures the relative weight of elements in each layer by creating a pairwise comparison matrix. In other words, AHP is an "eigenvalue" method, which estimates relative weights for each layer through a matrix standardization process, and synthesizes relative weights to obtain the relative weight or priority of the attributes in the lowest layer. Step 4 is the step of summing the relative weights of decision-making factors to obtain a comprehensive ranking of alternative decisions to achieve the goal of the decision-making problem. By

repeating this, the relative weight of the lower layer elements with respect to the uppermost layer is calculated. Through this, it is possible to determine the priority by estimating the relative importance between each factor.

## 3) Confirmation of Logical Consistency

The biggest factor that lowers the reliability of evaluation in using AHP is the consistency problem of evaluator's judgment in the pairwise comparison process. Since there is a risk of inconsistency or conflict of evaluation results in a complex decision-making problem composed of various factors, it is important to verify the consistency of judgment. To measure the consistency of pairwise comparisons, Consistency Rate (CR), Consistency Index (CI), and Random Index (RI) are used. This is a method of judging consistency by comparing the CI value that can be obtained when consistency is maintained with the RI value that can be obtained when evaluation is purely random. For consistency evaluation, it is important to check whether the consistency of evaluation is maintained by conducting a consistency evaluation when priorities are derived for each step.

Consistency evaluation is generally considered to be consistent when the CR value is less than 0.1. Below 0.2 is considered an acceptable level, and if it exceeds 0.2, it is judged that there is a problem in the consistency of evaluation, and a re-investigation must be carried out to ensure consistency (Choi, J. W., 2011). Since this study is for active-duty soldiers who are not familiar with the AHP research technique, 0.2 was used as the standard for consistency evaluation.

#### 3.2. AHP Survey Design

#### 1) Layer 1 Design

In order to derive the welfare policy preference of active-duty soldiers using AHP, the evaluation criteria of layer 1 should be selected first. In this study, based on previous studies that beneficiaries showed a higher preference for welfare fields that are insufficiently implemented by organizations, this study investigated related studies to select the factors of military maladaptation, which are mainly experienced by new-generation, as the evaluation criteria. (Jeon, G. Y., Kang, W. S., & Lee, J. G., 2018). And it went through the process of integrating and adjusting according to the 'importance' of the collected maladjustment factors, the 'redundancy' between the criteria, and the 'service conditions' of Honor Guard. The integration process was carried out by conducting focus group interviews (FGI) with seven sergeants who were currently serving in the Honor Guard.

Currently, the Republic of Korea Armed Forces is operating the Specialized Sgt system, which provides an opportunity to serve as a non-commissioned officer for a short period of time for soldiers on active-duty. They are commissioned as sergeants immediately after completing their military service as soldiers, and can serve as long as they want from 6 months to 2 years in the unit where they worked. Because they can perform executive duties based on the experience of serving as a soldier in a unit for about two years, they understand the purpose of unit operation accurately and are highly skilled in performing their duties, and in particular, they have a very high understanding of the lives of soldiers. Therefore, the FGI was conducted in the form of a response to an open-ended question and an interview format for the above 7 specialized sergeants. Afterwards, based on the contents of the FGI, major maladaptation factors were identified in four areas, and the evaluation criteria for the top layer were finally selected as shown in the <Table 2>.

#### 2) Layer 2 Design

<Table 1> presented by the Ministry of National Defense classifies sub-policies based on 'national goals'. However, in this study, based on the four major maladaptive elements identified through FGI, policies that can resolve each maladaptive element were newly placed in the lower layer for smooth pairwise comparison.

< Table 2> Factors of maladjustment in the barracks

Classification by the M. N. D.	Layer 1 by FGI
Lack of "Fair Compensation"	Disconnection from Society
Lack of "Employment Support"	Academic and Career Break
Lack of "Self-Development" Support	Lack of Basic Living Conditions
Lack of "Service Conditions"	Lack of Sense of Purpose for Service

## (1) Disconnection from Society

Disconnection from society is a maladaptation factor resulting from having to lead a controlled life in a state of being disconnected from society for about two years. Society includes a free life, external cultural objects that are available at any time, and family, lovers, and friends, which are the human relationships of active-duty soldiers. According to the education curriculum in Korea, most men are faithful to their studies until the age of 19, and only after taking the college scholastic ability test in November of that year can they enjoy their freedom as adults for the first time. However, they soon enlist in the military due to their duty, and again experience a life controlled by the military culture that emphasizes hierarchy and collectivism.

In addition, life in the military is based on group life with people whom they have met for the first time, and interpersonal conflicts and privacy restrictions that occur during group life act as major stressors for active-duty soldiers. Therefore, disconnection from society in this study can be said to be a concept that includes not only disconnection from external civilization, but also suppression of freedom, severance of human relationships, and restrictions on privacy.

The military welfare policy that is being implemented to resolve the maladjustment factor of disconnection from society includes "allowing smartphone use after work" and "expansion of visiting cultural and artistic performances." The military welfare policy that is being implemented to resolve the maladjustment factor of disconnection from society includes "allowing smartphone use after work" and "expansion of visiting cultural and artistic performances." According to the Ministry of National Defense (2019), by providing smartphones after work to the soldiers, the conditions for communication with the outside world of the soldiers have improved significantly, and communication between the soldiers and the officers means that the soldiers independently tried to overcome the stress caused by factors inside and outside the unit or urged the officers to improve the barracks problem. In a similar vein, there is also a study that found that when soldiers have a smooth relationship with officers, the stress of military life is reduced and their adaptability is increased (Koo, S. Y., 2015).

In addition, after the use of smartphones after work is permitted, the frequency of counseling among soldiers who complain of difficulties in interpersonal relationships is also decreasing (Ministry of Defense, 2019). This is because the irrationality such as the private sanctions of senior soldiers for their successors, which was common in a situation where executives' control was weakened after they left work, naturally decreased as the attention of senior soldiers was concentrated on smartphones after the smartphone was allowed.

On the other hand, the policy of "visiting cultural and artistic performances" is being implemented to guarantee the right to enjoy the culture of the soldiers because of the break with society. Currently, due to the critical pandemic situation, the national defense TV channel is broadcasting related cultural and artistic performances.

#### (2) Academic and Career Break

According to the FGI conducted in advance, active-duty soldiers said that they felt the gap due to two years of military service as a huge burden in deciding their major or career path. There were two main reasons for the burden. First, there were concerns that by suspending studies for about two years, they could lose their memory or sense of studying major before enlistment, or they could also lose your study habit itself. In other words, both studies and careers require mid- to long-term investments, but the gap of about two years causes stress in the sense that the results of their efforts before enlistment can be made in vain.

The second is concerns about life after being discharged from the military. When they return to their careers and studies after being discharged from the military, they feel depressed and stressed because of concerns about whether they will be able to adapt well to the changed society during the hiatus. Active-duty soldiers with such concerns generally tended to decide to enlist early in their early 20s, and nevertheless, it was revealed that the burden of career and concerns about re-adaptation in society after discharge caused great stress to them during their military service.

Among the current military welfare policies, policies aimed at resolving this severance at least include "Improvement of Cyber Knowledge Information Room", "Support for Jinjung Library", "Payment of Support for Self-Development Activities", and "Holding Job Fairs." The cyber knowledge information room refers to the computer room installed in the unit, where soldiers can conduct self-development such as studies using computers. As active-duty soldiers

were allowed to use smartphones since April 2019, the usage rate of PC room dropped a lot, but there are still many people at night (22:00 ~ 24:00) after submitting smartphones. The Jinjung Library support policy is a kind of in-unit library operation project in which the Ministry of National Defense purchases the books desired by the soldiers or recommended for soldiers in their 20s and provides them to the soldiers. The self-development activity subsidy is a policy that supports self-development expenses up to KRW 100,000 per soldier. The job fairs for those who are expected to be discharged is a policy that provides one-on-one job counseling or career help training to service members who are expected to be discharged, and is currently being held non-face-to-face due to the COVID-19.

## (3) Lack of Basic Living Conditions

Compared to the past, it cannot be denied that the living conditions of the soldiers are improving in all areas of food, clothing and shelter. Nevertheless, the recent controversy over inadequate meals for soldiers and the supply of defective clothing proves that the basic food, clothing and shelter of military servicemen still need to be improved. Accordingly, the Ministry of National Defense is trying to "improve the quality of meals" by increasing the cost of meals per person up to 10,000 won per day and changing the purchasing method of agricultural and fishery products to competitive bidding in order to avoid the recent controversy over poor meals. In addition, it is promoting the guarantee of combat power through the "improvement of clothing", such as the new supply of padded winter jumpers (for winter) and combat shirts (for summer). In particular, in the defense budget for 2021, a new budget for "haircuts" is provided, providing 10,000 won per month so that soldiers can use private hair salons without burden. This is due to the recognition that guaranteeing their haircut conditions was also included as a kind of basic living conditions guarantee. In addition, the "provision of sanitary

products" such as toilet paper, soap, and detergent can also be seen as a policy implemented to guarantee basic living conditions for soldiers.

#### (4) Lack of Sense of Purpose for Service

The Republic of Korea imposes the duty of national defense under the Constitution to all citizens, and enforces the conscription system only for "males over 18 years of age" in accordance with the Military Service Act. In this regard, active-duty soldiers deliberately perform their national defense duties based on their "gender" rather than their own intentions. And unintentional military service causes various side effects to them, which in turn leads to maladjustment to military life. In other words, military service in ancient Rome was the privilege and pride of a citizen who could protect the community, but the current military service that active soldiers think of is more meaningful as a reverse discrimination based on gender. Moreover, the awareness of the problem that the state does not adequately compensate for the sacrifices is contributing to the weakening of their sense of purpose for service.

Accordingly, the Ministry of National Defense is pushing for an increase in the salaries of soldiers through continuous budget input, and by expanding agreements with private facilities, it is actively trying to make active-duty soldiers aware that all members of society are grateful for the sacrifices of active-duty soldiers. As a representative example, most amusement parks in Korea appreciate their services and provide free admission tickets to active-duty soldiers. In addition, since 21st, when active-duty soldiers are injured or suffer from diseases while performing their duties, the procedure has been simplified so that they can use private hospitals other than military hospitals without burden, thereby guaranteeing the maximum exercise of their medical rights. <Table 3> shows the details and definitions of the hierarchical structure.

The AHP survey was conducted by distributing an online link to access the survey on each respondent's smartphone. It was conducted over the period from November 1 to November 14, 2021, and 204 responses from a total of 231 respondents who passed the consistency evaluation were used for the final analysis.

< Table 3> Details and Definitions of the AHP Survey

Layer 1	Layer 2	Definition
Disconnection	Expansion of Using Smart Phone	No additional explanation needed
from Society	Visiting Cultural and Artistic Performances	Ensuring soldiers' right to enjoy culture
	Improvement of Cyber Knowledge Information Room Operation	Improve computer performance and quantity in cyber room
Academic and	Support for Jinjung Library	Support for books in the unit
Career Break	Payment of Support for Self- development Activities	Hobby subsidy worth 100,000 won
	Holding Job Fairs	Employment support for discharged soldiers
	Improvement of Meals Quality	Increasing the cost of meals per person up to 10,000 won per day
Lack of Basic	Improvement of Clothing	Additional clothing such as winter jackets and combat shirts.
Living Conditions	Support for Soldier's Haircuts	10,000 won per month to use private hair salons
	Provision of Sanitary Products	Soap, tissue, detergent, etc. are provided.
	Increasing Soldier's Salary	No additional explanation needed
Lack of Sense of Purpose for Service	Simplifying Private Hospital Using Procedures	Guaranteed medical rights for soldiers
	Expanding Private Facility Agreements	Partnership with private amusement parks, etc.

#### 4. Study Results & Implications

#### 4.1. Demographic Characteristics of the Survey Subjects

Since the subject of this study is limited to active-duty military personnel, the gender of the study subjects is, of course, 100% male (204 person) and 0% female (0 person). This is because, according to the Military Service Act of the Republic of Korea, the subject of enlistment is limited to men. Therefore, gender did not have a significant effect on the study.

In this study, the variables that had a significant effect were age, affiliation, and class. In the case of active-duty soldiers belonging to the Honor Guard of the Ministry of National Defense Service Support Group, the 20-21 years old accounted for the largest portion with 76.5%, followed by 22-23 years old soldiers with 18.6%. Those under the age of 19 and those over the age of 24 accounted for only 4.9% of the total. Age was divided into 4 sections according to the education curriculum of Korea. The age of 20-21 is the age at which most students enter university, which is the age equivalent to a freshman or sophomore. The age of 22-23 is the age that is called the upper grade in university, and the age of 24 is the age at which one can graduate from a four-year university.

<Table 4> Distribution of Survey Participants by Age

	Under 19	20 ~ 21	22 ~ 23	Over 24
Frequency	4	156	38	6
Ratio	2.0%	76.5%	18.6%	2.9%

Although the Republic of Korea Armed Forces has several Honor Guards, the Honor Guard of M. N. D. is the only unit composed of the Army, Navy, and Air Force. Their purpose is to support all events hosted by the Korean government, and to publicize the status of the Korean military to state guests visiting Korea and to enhance the dignity of the Republic of Korea. Therefore, since it has the purpose of representing the ROK military, the Honor Guard is composed of three armies as one. Meanwhile, one of the unique features of the Defense Honor Guard is that it includes a 'Traditional Honor Guard'. They wear military uniforms made of hanbok from the Joseon Dynasty and traditional weapons, and demonstrate traditional martial arts. Because their affiliation is also the army, the ratio of the army is the highest at 52.9%.

The reason why the Army, Navy, and Air Force were separated in this study is because their service period is different. The total length of service in the Army is the shortest at 18 months, and the Air Force is the longest at 21 months. The total period of service in the navy is 20 months, but in the case of the marines belonging to the navy, the service period is 18 months, which is the same as in the army. The reason for the different service periods between them is that the Air Force and Navy belong to the "Technical" military. In other words, it takes a long time to master the job relatively compared to the army, so there is a difference in the service period. However, in the case of the Honor Guard, their duties are almost the same as they support government events.

< Table 5> Distribution of Survey Participants by Affiliation

_	Army	Navy (including Marine)	Air Force
Frequency	108	49	47
Ratio	52.9%	24.0%	23.1%

According to the FGI conducted earlier, the period when the skill levels of soldiers can be distinguished is unanimously said to be Corporal 5<sup>th</sup>. In other words, the rank that can distinguish between newcomers and seniors who can understand the physiology of the unit to some extent is Corporal 5<sup>th</sup>. Corporal 5<sup>th</sup> corresponds to the period when active-duty soldiers served in the military for nearly a year. Active soldiers with less than Corporal 5<sup>th</sup> account for 53.9% (110 person) of the units, while active soldiers with Corporal 5<sup>th</sup> or higher account for 46.1% (94 person). Putting the above tables together, it is shown in <Table 6>.

<Table 6> Demographic Characteristics of the Sample

Criteria	Classification	Frequency	Ratio
Gender	Male	204	100.0%
Gender	Female	0	0.0%
	Under 19 Years Old	4	2.0%
	20 ~ 21 Years Old	156	76.5%
Age	22 ~ 23 Years Old	38	18.6%
	24 Years or Older	6	2.9%
	Army	108	52.9%
Affiliation	Navy (including Marine Crops)	49	24.0%
	Air Force	47	23.1%
	Corporal 5th or Less	110	53.9%
Military Class	Corporal 5 <sup>th</sup> or Higher	94	46.1%

#### 4.2. Priority Analysis Result in the Layer 1

As a result of the analysis of the first layer, the priorities of the major maladaptation factors of active-duty soldiers are as shown in the <Table 7>. Disconnection from society was the highest priority at 47.8%, followed by academic and career break at 28.8%. Lastly, lack of basic living conditions showed importance at 8.1%.

<Table 7> 1st Layer Analysis Result

Goal	Layer 1(Criteria)	Weight	CR
	Disconnection from Society	47.8%	0.0071
Resolving	Academic and Career Break	28.8%	
maladaptation factors	Lack of Basic Living Conditions	8.1%	
	Lack of Sense of Purpose for Service	15.3%	

CR: Consistency Rate

The biggest reason for this result is that the 20-21 years old occupies the largest distribution among the age composition of active-duty soldiers. In their 20s, they can enjoy the first freedom as an adult in a life that has been subject to legal and cultural control as a student. And at the same time, compared to the freedom given to them, the responsibility is the lowest under the social acceptance because they have just left an adolescence. In other words, the fact that they have to devote their early 20s, such as their golden age, to military life on the premise of disconnection from society, acts as the biggest maladjustment factor for them. In addition, due to the current COVID-19 pandemic, outings on weekdays and vacations are almost restricted to prevent infection of soldiers living in groups. This trend is further increasing the level of disconnection felt by the soldiers.

On the other hand, among the factors of maladjustment, the item that lack of basic living conditions accounted for the lowest percentage. This is because the Ministry of National Defense has been active in solving the recent controversy over poor meals and clothing in the barracks, putting "guaranteeing basic living for soldiers" as a top priority and investing additional budgets. As a representative example, the Ministry of National Defense invested an additional budget of KRW 75 billion in the second half of this year to reflect an increase in daily meal expenses of KRW 10,000 per soldier.

There are also reasons for the characteristics of the unit. The Honor Guard of the M. N. D., which is the subject of the survey, is a unit directly under the Ministry of National Defense. Therefore, accessibility and acceptance of all service welfare policies implemented by the Ministry of National Defense as well as policies to solve urgent pending issues are higher than any other units. In addition, as a unit under the direct control of the Ministry of National Defense, the monitoring of policy implementation is thorough. Therefore, sufficient guarantees for basic living conditions can be made, resulting in these results.

By the way, when the study subjects were limited to Air Force soldiers, it was confirmed that the weight of the disconnection from society was lowered (47.8%  $\rightarrow$  39.6%), and the weight of two items that academic and career break (28.8%  $\rightarrow$  33.2%) and lack of sense of purpose for service (15.3%  $\rightarrow$  19.2%) increased. This is due to the difference in service period between Air Force soldiers and other forces. Air Force soldiers with long service periods are about three months behind in returning to society compared to other military forces. Despite the same enlistment period, Air Force soldiers experience loss of sense for service purposes by looking at their colleagues or successors discharged first. It is due to kind of relative deprivation. Furthermore, due to the delayed discharge, they experience fear of returning to society as the period of academic and career break is also prolonged. In other words, the difference in service period led to a significant difference in results.

### 4.3. Priority Analysis Result in the Layer 2

## 1) Disconnection from Society

In the second layer, the preference of the alternative of the second layer was derived by converting the four weights of the first layer to 100, respectively. First of all, in the comparison of alternatives under disconnection from society, which occupied the highest weight in the first, the preference for expanding the use of smart phones was 78.8%, which was higher than the expansion of visiting cultural and artistic performances, which showed a preference of 21.2%. The result is shown in <Table 8>.

<Table 8> 2nd Layer Analysis Result: Disconnection from Society

Criteria	Layer 2(Alternatives)	Weight	CR	
Disconnection from	Expansion of Using Smart Phone	78.8%	0.0000	
Society	Visiting Cultural and Artistic Performances	21.2%	0.0000	
CR: Consistency Rate				

#### 2) Academic and Career Break

In the comparison of alternatives under academic and career interruption, payment of support for self-development activities was given the highest priority at 50.2%, followed by holding job fairs for those expected to be discharged from service at 27.9%, cyber knowledge information room operation improvement at 14%, and Jinjung library support at 7.9%. The result is shown in <Table 9>.

<a>Table 9> 2nd Layer Analysis Result: Academic and Career Break</a>

Criteria	Layer 2(Alternatives)	Weight	CR	
	Improvement of Cyber Knowledge Information Room Operation	14.0%		
Academic and Career	Support for Jinjung Library	7.9%	0.0002	
Break	Payment of Support for Self- development Activities	50.2%	0.0093	
	Holding Job Fairs	27.9%		

CR: Consistency Rate

# 3) Lack of Basic Living Conditions

Food quality improvement item showed the highest preference with 50.8%, followed by clothing improvement item with 26.4%. Provision of sanitary products showed a weight of 14.2%, and support for haircuts showed the lowest preference at 8.6%. The result can be confirmed in <Table 10>.

< Table 10> 2nd Layer Analysis Result: Lack of Basic Living Conditions

Layer 2(Alternatives)	Weight	CR
Improvement of Meals Quality	50.8%	
Improvement of Clothing	26.4%	0.0070
Support for Soldier's Haircuts	8.6%	0.0070
Provision of Sanitary Products	14.2%	
	Improvement of Meals Quality  Improvement of Clothing  Support for Soldier's Haircuts	Improvement of Meals Quality 50.8%  Improvement of Clothing 26.4%  Support for Soldier's Haircuts 8.6%

CR: Consistency Rate

#### 4) Lack of Sense of Purpose for Service

The soldier's salary increase showed the highest preference among the items with a weight of 64.9%. In addition, preference was shown in the order of weight of 23.0% for expanding private facility agreements and 12.1% for simplifying private hospital use procedures.

< Table 11> 2nd Layer Analysis Result: Lack of Sense of Purpose for Service

Criteria	Layer 2(Alternatives)	Weight	CR	
	Increasing Soldier's Salary	64.9%		
Lack of Sense of Purpose for Service	Simplifying Private Hospital Using Procedures	12.1%	0.0018	
	Expanding Private Facility Agreements	23.0%		

CR: Consistency Rate

Therefore, if the relative weights of the factors measured in each layer are comprehensively summed up, the following <Table 12> is shown. The purpose of this AHP questionnaire is to identify the welfare needs of active-duty soldiers by deriving welfare policy priorities. If welfare policies are reorganized based on the relative importance of each policy, it will be able to help resolve the maladjustment factor that was at the top layer of the AHP survey.

As a result of the AHP analysis, the most preferred policy for soldiers was to expand the use of smartphones (0.377). And it was followed by the policies that "payment of support for self-development activities (0.145)" and "visiting cultural and artistic performances (0.101)." The increase in soldier's salary also responded very favorably to the soldiers. On the other hand, the welfare policy most disliked by soldiers were the policies of "support for soldier's haircut cost (0.007)" and "providing of sanitary products (0.012)." What these two have in common is that they are policies that support the basic living conditions of soldiers. Two rational inferences are possible as to why these results came out. The first is that basic living conditions

are already sufficiently guaranteed to soldiers through several military welfare policy reforms, and the second is that the above policies that guarantee basic living conditions are recognized as factors that should be paid for their sacrifices. Sacrifice here refers to the duty of military service to be fulfilled without receiving legitimate compensation in their 20s.

In other words, the implications of the above analysis are as follows. Policies that soldiers do not feel the need for are meaningless, so a preliminary need investigation is essential to deliver more meaningful and helpful policies to them.

<Table 12> Relative Importance and Priority between Details

Layer 1(Criteria)	Layer 2(Alternatives)	Weight	Relative Importance	Priority	Overall Priority
Disconnection	Expansion of Using Smart Phone	78.8%	0.377	1	1
from Society (0.478)	Visiting Cultural and Artistic Performances	21.2%	0.101	2	3
	Improvement of Cyber Knowledge Information Room	14%	0.040	3	7
Academic and	Support for Jinjung Library	7.9%	0.023	4	9
Career Break (0.288)	Payment of Support for Self- development Activities	50.2%	0.145	1	2
	Holding Job Fairs	27.9%	0.080	2	5
	Improvement of Meals Quality	50.8%	0.041	1	6
Lack of Basic Living Conditions	Improvement of Clothing	26.4%	0.021	2	10
(0.081)	Support for Soldier's Haircuts	8.6%	0.007	4	13
	Provision of Sanitary Products	14.2%	0.012	3	12
Lack of Sense of	Increasing Soldier's Salary	64.9%	0.099	1	4
Purpose for Service	Simplifying Private Hospital Using Procedures	12.1%	0.019	3	11
(0.153)	Expanding Private Facility Agreements	23.0%	0.035	2	8

# 4.4. Comparison between Priority Analysis Results and Welfare Budget

In order to compare the priorities derived through the AHP analysis and the welfare budget, a standard for ranking the welfare budget is also needed. For example, the current minimum wage in Korea is KRW 8,720 per hour. Therefore, to raise the minimum wage by 10%, KRW 872 would be needed, and the budget to be put in to pay the wages after that would be KRW 9,592. If it is assumed that the existing budget for another policy is KRW 500, the additional budget required to raise the same by 10% is only KRW 50, and when additional budgets are added at the same rate, the total amount reaches only KRW 550. This suggests that the existing budget has a great influence on the comparison of welfare budgets. Therefore, it would be meaningless to simply compare the importance between policies with the total budget or percentage of the increase invested in welfare, and it would be more appropriate to compare the budget corresponding to the change from the previous year.

The premise of this study is that the more important the government's goal is, the more budget is invested. This is a fact that has already been revealed in the recent controversy over poor meals among soldiers. As the public's distrust of the Ministry of National Defense increased due to the controversy over the poor meal service of the soldiers, the Ministry of National Defense hastily invested 75 billion won in an additional budget to increase the daily meal price for soldiers from KRW 8,790 to KRW 10,000. In other words, as the Ministry of National Defense placed importance on the controversy over poor service for soldiers, it allocated more budget to show its "will" to improve the living conditions of the soldiers.

Therefore, the following <Table 13> summarizes the changes in the welfare budget compared to the previous year. The policy with the largest increase in the budget is a salary increase for soldiers (KRW 136.1 billion), and the policy with the next largest increase is the

improvement of clothing (KRW 72.5 billion). In the case of food quality improvement, the unit price of meals increased compared to the previous year (KRW 8,493 per person to KRW 8,790 per person), but the decrease in the number of soldiers was greater (-26,624 person), so the total budget for FY 2021 was rather reduced compared to the previous year (KRW -19 billion). However, an additional budget of KRW 75 billion was invested after the controversy over poor meals service, which eventually became the third largest policy increase (KRW 56 billion).

< Table 13> Changes in the Budget by Welfare Policy Compared to the Preview Year (KRW)

Layer 1(Criteria)	Layer 2(Alternatives)	FY 2021 Budget	Increment	Overall Priority
Disconnection	Expansion of Using Smart Phone	No budgeting required	-	-
from Society	Visiting Cultural and Artistic Performances	1.8 billion	0.7 billion	8
	Improvement of Cyber Knowledge Information Room	Unable to verify	-	-
Academic and	Support for Jinjung Library	9.4 billion	0.8 billion	7
Career Break	Payment of Support for Self- development Activities	23.5 billion	15.5 billion	6
	Holding Job Fairs Unable to verify	-	-	
	Improvement of Meals Quality	1.62 trillion + 75 billion	-19 billion + 75 billion	3
Lack of Basic	Improvement of Clothing	680.2 billion	72.5 billion	2
Living Conditions	Support for Soldier's Haircuts	42.1 billion (New)	42.1 billion	4
	Provision of Sanitary Products	76.7 billion	27.2 billion	5
	Increasing Soldier's Salary	2.23 trillion	136.1 billion	1
Lack of Sense of Purpose for Service	Simplifying Private Hospital Using Procedures	No budgeting required	-	-
	Expanding Private Facility Agreements	No budgeting required	-	-

< Table 14> Comparison of Budget Priorities and Preference Priorities

Layer 1(Criteria)	Layer 2(Alternatives)	Budget Priority	Preference Priority
Disconnection	Expansion of Using Smart Phone	No budgeting required	1
from Society	Visiting Cultural and Artistic Performances	8	3
	Improvement of Cyber Knowledge Information Room	Unable to verify	7
Academic and	Support for Jinjung Library	7	9
Career Break	Payment of Support for Self- development Activities	6	2
	Holding Job Fairs	Unable to verify	5
	Improvement of Meals Quality	3	6
Lack of Basic	Improvement of Clothing	2	10
Living Conditions	Support for Soldier's Haircuts	4	13
	Provision of Sanitary Products	5	12
	Increasing Soldier's Salary	1	4
Lack of Sense of Purpose for Service	Simplifying Private Hospital Using Procedures	No budgeting required	11
	Expanding Private Facility Agreements	No budgeting required	8

According to <Table 14> above, policies with a clear lower priority than the budget invested were "improvement of clothing", "support for haircut costs for soldiers", and "provision of sanitary products." In the above policies, soldiers' preferences were outside the top 10, but the budget input ranking was in the top. In other words, it proves that the current welfare budget distribution status of the Ministry of National Defense is not efficient from some welfare policies. Therefore, it can be seen that there is a need to consider reorganizing the budget, which separates part of the budget invested in the above policy and additionally

puts into policies with high priority of soldiers. For instance, more budget could be spent on "self-development subsidies," which are ranked  $6^{th}$ , although soldiers' preference priorities are  $2^{nd}$ . If so, the scope of beneficiaries could be much wider than now.

However, this study does not argue that an absolute proportional relationship between soldier preference and budget input ranking of welfare policies is necessary. This is because policies such as the provision of hygiene products may be essential for some low-income soldiers. What this study wants to suggest is that the welfare budget should be efficiently invested according to the preferences of soldiers, while ensuring the autonomy of soldiers' welfare choices so that limited welfare budgets can be used more efficiently. In other words, cash, not in kind, should be paid so that soldiers can directly purchase more necessary items. Increasing the welfare autonomy of soldiers through cash subsidies is the way to increase the efficiency of the welfare budget.

In addition, the expansion of soldiers' smartphone use did not require additional budget input, and at the same time ranked highest in the preference ranking. Therefore, it is possible to consider expanding the physical smartphone usage time to improve the welfare of soldiers, but what this study proposes is to prepare various contents that can utilize smartphones within the military. Because it can raise concerns that it may neglect the military's original purpose of national defense, including violations of security regulations by recklessly expanding the usage time. Various contents include, for example, allowing soldiers to read books during offwork hours on their smartphones through contracts between startups that provide e-book rental services and the Ministry of National Defense. In the above case, it will be possible to realize by reducing the budget invested in the support for JinJung library, which is a project that supports actual books for soldiers. And with that effect, it will be possible to provide welfare benefits of non-exclusion and non-competitiveness to all soldiers.

#### 5. Conclusion

#### **5.1. Summary of the Study**

In order to amplify the effectiveness of soldiers' welfare policies to its maximum the following needs to be satisfied: Efforts to secure as much welfare budget as possible and to scientifically analyze the needs of the beneficiary soldiers to produce befitting welfare policies. However, there are no existing studies regarding the methods of recognizing and applying the needs of soldiers for more effective welfare policies.

Thereby in order to maximize the effectiveness of the limited welfare budget, this survey attempted to identify the welfare needs of active-duty soldiers using the AHP research technique so that customized welfare policies suitable for the needs of beneficiaries could be realized. To this end, the major maladaptation factors of active-duty soldiers were identified, and a preference survey of welfare policies to resolve the maladjustment factors was conducted to materialize the welfare needs of the soldiers. Additionally, the effectiveness of the welfare budget was verified by comparing the above welfare needs and the proportion of the welfare budget for each policy. The results obtained through this study are summarized in the order of the research questions as follows.

#### 1) Identification of Maladjustment Factors to Military Life in the New-Generation

Prior to the AHP survey, focus group interviews were conducted with seven staff sergeants currently working under the Honor Guard to identify major maladjustment factors for the new generation. The reason that FGI was conducted on those seven subjects is that they have the perspective of both soldiers and executives as they have served in the Honor Guard as soldiers for about two years. According to the FGI, the major factors for military maladjustment of the

new generation were "Disconnection from Society", "Academic and Career Break", "Lack of Basic Living Conditions", and "Lack of Sense of Purpose for Service."

Based on this, the first layer of AHP was designed, and each weight was in the order of disconnection from society (47.8%), academic and career break (28.8%), lack of sense of purpose for service (15.3%), and lack of basic living conditions (8.1%). However, when the survey answers of active Air Force soldiers were singled out, a significant difference could be found in the order. This seems to be due to the fact that the service period of the Air Force was three months longer than that of other military units. In other words, the results reflected the hardships caused by active Air Force soldiers being discharged later than other soldiers, even though they enlisted in the military at the same time and performed the same mission.

#### 2) Welfare Policy Priority Results for Active-Duty Soldiers

AHP survey was conducted on 13 welfare policies aimed at resolving each maladaptation factor. Each welfare policy is actually being implemented in the Honor Guard. As a result of the survey, the most preferred policy for active-duty soldiers was the expansion of smartphone use (0.377), followed by support for self-development activities (0.145). On the other hand, the least preferred policy for soldiers was to support the cost of haircuts for soldiers (0.007), which was implemented for the first time this year. This is because there were few opportunities to use private companies as the soldiers' going out and staying out were continuously restricted due to the COVID-19. In other words, policies that do not have utility value for soldiers only waste budget, cannot resolve military maladjustment. This is why the survey of beneficiaries' needs should precede the establishment and implementation of welfare plans.

#### 3) Relationship between Policy Preference Priority and Budget Input Priority

The policies that had a clear gap between the FY 2021 military welfare budget and the preference rankings were "improvement of clothing", "support for soldier's haircuts", and "provision of sanitary products." The above policies ranked 10<sup>th</sup>, 13<sup>th</sup>, and 12<sup>th</sup>, respectively, but the proportion of budget input was 2<sup>nd</sup>, 4<sup>th</sup>, and 5<sup>th</sup>, respectively, showing a big difference. On the contrary, the "visiting cultural and artistic performances" ranked 3<sup>rd</sup> among all policies, but the proportion of budget input ranked merely at 8<sup>th</sup>.

From the above results, it has been proved that the current welfare budget distribution status of the Ministry of National Defense does not efficient correlate to the welfare preferences of soldiers. Therefore, it is necessary to periodically readjust the budget distribution status based on the results of the welfare needs survey of beneficiaries. By reducing the budget for welfare policies with low preference for soldiers and increasing the budget for welfare policies with high preference for soldiers, it will be possible to broaden the current narrow scope of beneficiaries of policies with high preferences.

#### **5.2. Suggestion of the Study Results**

This study proved that the results of the soldier preference survey of welfare policies currently being implemented by the Honor Guard and the status of budget distribution were not directly proportional. In other words, from the perspective of beneficiaries, the Ministry of National Defense's current welfare budget is not being invested efficiently compared to their needs. To solve this problem, it is necessary to further strengthen the policies that beneficiaries really want by investing more budget on policies that meet the preferences of soldiers through a preliminary survey of beneficiaries' needs. This is because the policies that active-duty

soldiers truly want will soon be necessary to overcome the various factors of maladjustment in the barracks they experience.

However, this study does not argue that budget allocation of absolute proportional relations based on preference priority results is necessary. Because the survey results only represent the average value of the response and do not accurately reflect the opinions of each extreme. The primary purpose of welfare is in protecting human dignity and it also applies to military welfare. Welfare policies such as the payment of hygiene products may be policies that are shunned by average values, but may be essential to protect the dignity of some low-income soldiers. Therefore, what this study intends to suggest is that in order to catch two rabbits – the efficiency of the welfare budget and the preferences of soldiers, the autonomy of soldiers' welfare choices must be increased. In other words, cashable welfare such as mileage, not in kind, should be provide so that active-duty soldiers can each choose more necessary welfare. Increasing the welfare autonomy of soldiers through cash assistance is the same way to increase the efficiency of the welfare budget.

In addition, this study focuses on the policy of expanding smartphone usage, which has significantly less investment in welfare budgets and at the same time has the highest priority in the preference of active-duty soldiers. Avoid policy to expand physical usage time, which may be a problem for national defense – the military's original purpose, but preparing various contents to use smartphones while maintaining the current available time can also contribute to satisfying the welfare needs of active-duty soldiers. For example, contracts between companies that provide e-book rental services and the Ministry of National Defense will allow soldiers to read books on their smartphones during day-off hours. Also, by streaming visiting cultural and artistic performances, it will be possible to provide a link for soldiers who want them to watch the performances. As existing welfare policies have provided welfare benefits of exclusion and competitiveness, preparing various contents using smartphones could be an

alternative to using welfare budgets more efficiently in that they can provide welfare benefits of non-exclusion and non-competitiveness.

According to a survey of 852 soldiers by the Defense Daily issued by the Defense Promotion Agency in October, the number one thing soldiers hate to hear the most is "the military has become too comfortable these days." This was something that 16% of soldiers did not want to hear, followed by "Already out (on vacation)? (8.2%)" and "You're out (on vacation) again?" (7.5%). On the other hand, the number one word that the soldiers wanted to hear the most was "Thank you for your service." Despite the fact that it is a necessary word for the sacrifice of active-duty soldiers, it was chosen as the preferred word by a whopping 38.7% of the respondents. What are the implications of the above survey results for our society? It shows that rather than expressing gratitude for the sacrifices of active-duty soldiers, our society may have regarded it as a natural duty of the people and implicitly ignored or indifferent to their difficulties.

The Republic of Korea's defense budget surpassed KRW 50 trillion for the first time in FY 2020. To top it off, the Republic of Korea's military has placed itself as the world's sixth-largest military power. Nevertheless, the salary given to young men forcibly recruited by the country is less than half of the minimum wage. In other words, Korea still owes national defense to young men in their 20s. Korea is no longer a developing country. It is the world's top 10 economic powerhouses with an annual national budget of more than KRW 500 trillion. In a country with a per capita national income of \$30,000 just around the corner, young people who are sacrificing their 20s for national defense should be treated appropriately. There is a need to improve the national consciousness of being grateful for their sacrifices.

#### 5.3. Limitations of the Study

#### 1) Specificity of the Object

As already mentioned in the introduction, the Honor Guard of Ministry of National Defense is one of the few units based in Seoul, the capital of the Republic of Korea. Therefore, there may be significant differences between active-duty soldiers in other units located in front and maladaptation factors. For example, active-duty soldiers working in the front may feel deficient in basic living conditions or experience maladjustment due to poor supply. However, regardless of the specificity of the sample, it cannot be denied that a preliminary need investigation claimed in this study is necessary. Welfare policies that active-duty soldiers truly need should be strengthened prior to investigating the needs of beneficiaries.

## 2) Lack of Correlation between Policy Preference and Effectiveness

This study was conducted on the premise that potentially soldiers prefer policies that feel utility. In other words, it is assumed that there is a significant correlation between the effectiveness of the policy and the soldiers' preference for the policy. However, follow-up studies are needed to see if each welfare policy actually has the effect of solving military maladjustment factors based on specific data including performance indicators. If follow-up studies are supported, not only will the reliability of this study be further enhanced, but also alternatives to existing policies that can effectively resolve military maladjustment factors can be newly discovered.

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#### Abstract (Korean)

# AHP 분석기법을 활용한 장병 복지 정책의 평가 및 발전방안 연구 : 국방부 근무지워단 의장대대를 중심으로

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우리나라는 북한의 직접적인 도발과 북한 체제의 불확실성에 따른 위협에 적극적으로 대응해야 하는 분단국가의 현실, 그리고 재정적인 이유로 징병제를 채택하고 있다. 즉, 대한민국 군대는 국방의 의무에 기초한 징병제를 전제로 운영되는 바, 현역병들은 타의에 의해 급변한 환경에 적응해야 한다. 그 과정 속에서 일부는 부적응을 경험하며, 심각하게는 탈영, 구타, 자살, 가혹행위 등 병영 내에서 발생하는 사고의 가해자 혹은 피해자가 되기도 한다. 이에 국방부는 반복되는 병영 내 문제를 근본적으로 해결하고자 기본 계획에 의거, 수차례의 군 복지 정책을 추진하였다.

그러나 국방부의 꾸준한 노력에도 불구하고, 처우 개선에 대한 장병들의 체감 수준이 낮은 것은 우리 군이 장병들의 복지 욕구를 전문적 지식을 토대로 제대로 파악하려 하지 않은 채, 공급자의 입장에서 정책을 이끌어왔기 때문이다. 따라서 본 연구는 AHP 연구 기법을 활용하여 현역병들이 주로 선호하는 복지 정책이 무엇인지 살펴봄으로써, 수혜자의 입장에서 복지 욕구를 이해하고 이를 효과적으로 충족시키기 위한 정책적 대안을 마련하였다. 본연구의 설문은 국방부 근무지원단 의장대대 소속 현역병 231 명을 대상으로 한다. 위 의장대는 육군과 해군, 공군이 모두 속해있는 국직부대지만, 동시에 대원 모두가 동일한 임무를 수행하여 변인 통제가 용이하다는 의의가 있다.

AHP 조사 결과, 현역병들이 가장 선호하는 정책은 스마트폰 사용 확대(0.377)였으며, 자기개발 활동 비용을 10 만원 가량 지원하는 정책(0.145)이 그 뒤를 이었다. 반면 이들이 가장 선호하지 않는 정책은 21 년도에 처음 시행된 병 이발비 지원 정책(0.007)이었다. 이는 코로나로 인해 외출, 외박이 지속적으로 제한된 상황 속에서 민간 업체를 이용할 기회가 전무했기 때문이다. 다시 말해, 병사들에게 효용 가치가 없는 복지는 예산만 낭비할 뿐이며, 이에 본 연구는 제한된 예산의 효율적인 집행을 위해선 수혜자들의 욕구 조사가 복지 계획수립 이전에 선행되어야 함을 강조한다.

더 나아가, 본 연구는 복지 예산의 보다 효율적인 집행을 위해 두 가지 대안을 제안한다. 첫째는 현역병들의 복지 선택의 자율성을 증대하는 것이다. 현물이 아닌 복지 포인트 등의 현금성 복지를 지급함으로써, 현역병들이 각자 더 필요한 복지를 선택할 수 있도록 제도를 개선할 필요가 있다. 둘째는 스마트폰을 활용할 수 있는 다양한 콘텐츠들의 마련이다. 스마트폰 사용 시간의 확대는 군 본연의 목적인 국가 방위에 위험요소가 될 수 있기 때문에 지양하되, 예컨대 전자책 대여 서비스 등을 제공하는 기업과의 계약을 통해 장병들이 일과 외시간에 스마트폰으로 다양한 문화생활을 경험할 수 있게끔 복지를 제공할 수 있다. 스마트폰을 활용한 다양한 콘텐츠를 마련하는 것은 비배제성, 비경제성의 복지 수혜를 제공할 수 있게 된다는 점에서 복지 예산을 더욱 효율적으로 활용하는 대안이 될 수 있을 것이다.