Abstract

**Purpose:** The rate of application for ROTC, which accounts for more than 60% of officers commissioned by the Army annually, is decreasing every year. In this reality, this research aims to study what factors make college students decide to serve as officers and why they avoid applying for ROTC, and through this, from the military’s point of view, it is intended to provide it as basic data that can obtain excellent cadets based on these factors.

**Method:** Based on the results of previous studies on the influencing factors of college students applying as cadets and the decreasing ROTC application rate, this study analyzed the factors limiting the acquisition of excellent cadets and prepared improvement measures.

**Results:** The reasons for the decrease in the application rate for ROTC cadets are as follows: First, difficulty in recruiting troops due to a decrease in the school-age population due to a low birth rate and aging society; Second, difficulty in obtaining manpower due to the shortening of the military service period; Third, insufficient economic compensation for ROTC cadets; Fourth, difficulty in managing cadets’ academic performance while attending the college. These factors have led the military to face an environment in which it has to make much more effort to recruit and select excellent ROTC cadets in the future than in the past. Therefore, it can be said that it is urgent for the military to identify, analyze, and come up with improvement measures for what factors college students decide to apply for ROTC cadets and for what reason they avoid the application.

**Conclusion:** In order to improve the application rate for ROTC cadets in the future, it is necessary to review ways to shorten the service period of ROTC cadets, reduce the burden of academic performance management, introduce a military course credit system, and increase the promotion budget and come up with new ways to attract new generations of applicants. Through these legal and institutional improvements, it is expected that excellent ROTC cadets with the capabilities required by the Korean military will be obtained in the future.

**Keywords** Low Birth Rate and Aging Society, Army Officer Training System, ROTC Cadets, Excellent Manpower, ROTC Officer Selection System

1. Introduction

Since 2001, Korea has entered an ultra-low birth rate society with a fertility rate of 1.3 or less. In addition, from 2018, the elderly population aged 65 or older accounted for more than 14% of the total population, leading to an aging society. The entry into an ultra-low birth rate and aging society has led to a sharp decline in the school-age population (6-21 years old), and this phenomenon has transformed not only the military but also all organizations in our society into an environment where more efforts should be made to obtain excellent manpower.

However, the military has even more difficulty in obtaining excellent manpower than the general organizations in the civilian society. This is because the specificity of the military, that is,
the age group of resources, is limited, and welfare and working conditions are inferior to other organizations in society[2].

In particular, in the case of the Army, the fact that Korean society has entered a low birth rate and aging society, and the recent reduction in military service period from 21 months to 18 months is a major obstacle to obtaining and maintaining the supply of troops. This is also causing great difficulties in securing entry-level officers in command of small units below the critical level of the Army. In particular, the application rate for ROTC cadets, which has the highest percentage of junior officers in the Army, is decreasing year by year, and there is serious concern that the military’s combat power will decrease. Therefore, this paper recognizes the seriousness of the reduction in the application rate of candidates for ROTC and attempts to find out the current status, problems, and improvement measures.

2. Theoretical Background

2.1. Army officer training system

The current Korean Army’s training system for officers is largely divided into academic cadet courses and military cadet courses. The academic cadet course is to complete a university degree course and military education at the same time, including Korea Military Academy and Korea Army Academy. The military cadet course is a course that only completes military education, including courses for school military officers, bachelor’s officers, and executive officers.

The percentage of about 6,000 army junior officers per year is 3.8 percent from Korea Military Academy, 9.2 percent from Korea Army Academy, 62.0 percent from ROTC, and 16.0 percent from Korea Army Office Candidates[3]. ROTC cadets, which account for the largest proportion among these, go through military education and training for two years while attending college. In addition, this is a system in which candidates are commissioned as lieutenants upon graduation through enlistment training during college vacation and serve in the military as officers for 28 months. In this paper, we will focus on this system of ROTC cadets.

2.2. ROTC cadets system

2.2.1. The background of the establishment

The background of the establishment of the ROTC cadets system was the introduction of the existing US system in 1961 to overcome the problem of weakening military combat power and secure reserve power due to the lack of junior officers after the Korean War[4]. Due to the rapid expansion of armament after the ceasefire, it was not possible to meet the needs of junior officers only by training existing military schools and officer candidates.

In addition, the Korean military, which had already experienced the great impact of the lack of junior officers on military combat power through the Korean War, sought reasonable ways to meet both military purposes and educational policies without interfering with college education. So, just in time, the ROTC system implemented by the U.S. Army was introduced, and on June 5, 1961, in accordance with Article 72 of the Military Service Act and the Enforcement Decree of Student Military Training, military education groups were established in 16 universities[5][6].

2.2.2. The necessity of ROTC

ROTC has produced more than 200,000 officers over the past 60 years since its foundation, contributing to national security and establishing their status and role as the leader of national development. The reasons for the need for the ROTC system in our military are as follows.
First, it is possible to cultivate and utilize a lot of qualitatively excellent junior officers in a short period of time. By selecting college students with a high knowledge level and training them as cadets, a large number of competent officers can be secured, which is an essential system for maintaining military combat power[7].

Second, it is possible to strengthen the security consciousness of the people and prepare for the expected enemy invasion. This has the advantage of letting the candidates serve as an officer at the same time as graduating from college by acquiring military training while studying, so the military can utilize competent officers with both civil and military competence based on their knowledge majored in college[8].

2.2.3. ROTC cadet selection system

Unlike other cadet selection courses, the ROTC cadet candidates can only apply and are selected among students from universities authorized by the school corps consulted with the Ministry of National Defense. The number of applicants from the school will be selected through competition (female applicants will be selected through nationwide application and competition) and first and second-year students under the age of 20 to 27. The selection method is as follows. The first screening is the SAT or high school GPA, college GPA, and written test, and the second screening is through physical fitness certification scores and interview evaluations, and is finally selected by reflecting the results of physical examination and background check[9][10].

2.3. Concept of outstanding manpower in the military and candidates for outstanding ROTC cadets

The concept of excellent manpower in the military is different from that of society. The requirements for excellent human resources in society are intellect and competence in a specific field. However, in the military, it can be said that the general competence, that is, the multiplayer concept, is considered what is excellent, not the outstanding talent in any one field. In the military, due to the nature of the organization, talent with basic personality and sacrificial spirit as well as intellectual learning ability is required[11][12]. The requirements that officers currently need in our military can be divided into five categories.

First, mental attitude for professional and creative research. Second, comprehensive knowledge and multi-faceted adaptability. Third, a person with leadership. Fourth, excellent physical strength. Fifth, the establishment of a firm view of the state, cadet, and occupation[13].

It can be said that the talented people with these abilities are the excellent human resources required by the Army. The concept of "Who are the excellent ROTC cadets?" differs depending on the perspective of view. There is a view that candidates from outstanding universities are excellent, and there is also a view that individually excellent resources are excellent. The criteria for excellent cadets have recently been suggested through various studies, and among them, the level of cadets is not significantly related to the level of education, and it is thought that the concept of seeing people with individual qualities, intelligence, aptitude, knowledge, skills, and attitudes is most appropriate[14].

3. Research Analysis

3.1. Research model

In this study, the following research model was constructed to prepare improvement measures based on previous studies on the influencing factors of the cadet application and limiting the acquisition of school military candidates as shown in <Figure 1>.
3.2. Factors influencing the application of ROTC cadets

3.2.1. Factors influencing cadet application

The application rate compared to the total number of ROTCs over the past seven years is as shown in Table 1. The application rate was 6.1 to 1 in 2014, but it is decreasing every year to 2.3 to 1 in 2020.

Table 1. ROTC application rate: the Seoul newspaper (2020).

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>6.1:1</td>
<td>4.5:1</td>
<td>4.1:1</td>
<td>3.7:1</td>
<td>3.4:1</td>
<td>3.2:1</td>
<td>2.3:1</td>
</tr>
</tbody>
</table>

Table 2 shows the factors influencing the cadet application related to this reduction in the rate. They are divided into individual factors, occupational factors, and environmental factors, and are subdivided into several factors[15].

Table 2. Factors influencing cadet application.

<table>
<thead>
<tr>
<th>Description</th>
<th>Subfactors</th>
<th>Score (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual factors</td>
<td>• Will to serve in the military</td>
<td>4.05</td>
</tr>
<tr>
<td></td>
<td>• Value of military service</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Physical conditions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Aptitude</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Interest / Personality</td>
<td></td>
</tr>
<tr>
<td>Occupational factors</td>
<td>• Vocational stability</td>
<td>3.93</td>
</tr>
<tr>
<td></td>
<td>• Working conditions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Social status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Welfare benefits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Vacation system</td>
<td></td>
</tr>
<tr>
<td>Environmental factors</td>
<td>• Family influence</td>
<td>2.41</td>
</tr>
<tr>
<td></td>
<td>• Family environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Peer group influence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Social atmosphere</td>
<td></td>
</tr>
</tbody>
</table>

According to existing research data, the most influential personal factors among the reasons for supporting officers were military service willingness (94.5%), military service values (88%), interest and personality (73%), physical condition (59.8%), and aptitude (49.3%). This reflects the idea that if one serves as an officer, one will be able to develop leadership, and it may be because people who have served as officers in the military are judged to have strong leadership in society as well[16][17]. In terms of occupational factors, occupational stability (82.9%), social status (77.4%), welfare (69.3%), vacation system (58.8%), and working conditions (24.6%). The
most important thing about job security is probably because of the reason that an officer (second lieutenant) after graduating from college can receive a stable salary equivalent to that of a Grade 7 public official upon appointment[18]. In the case of social status, it is thought that they are conscious of the way they view officers better than enlisted soldiers. Since welfare benefits and vacation systems are parts that can be experienced after commissioning an officer, it was found that they did not affect more than the previous two factors. Environmental factors were found in the order of family influence (38.2%), family environment (30.2%), peer group influence (24.6%), social atmosphere (14.6%), and media influence (7.5%). Among them, the influence of family (parents, siblings, etc.) appears to be the most important factor because families living together can have a direct influence on individuals. Looking at the average score obtained by converting the above three factors into five points, personal factors show an average of 4.05, occupational factors 3.93, and environmental factors 2.41. It can be seen that this affects officer application in the order of personal, occupational, and environmental factors[18].

3.2.2. Factors influencing the decrease in the application rate of the ROTC cadets

Recently, the Army Student Military School conducted its own survey on about 2,000 first and second-year students nationwide who did not apply for ROTC cadets. As a result, Table-3 shows the reasons for not applying for ROTC. The biggest reason was that the period of service as an ROTC officer was long, followed by enlistment training conducted while attending university as an ROTC cadet. It was found that the answer was followed by in-school education, difficulties in preparing for employment, and dissuasion from others[19].

Table 3. Factors influencing the decrease in the application rate of the ROTC cadets: army student military school (2018).

<table>
<thead>
<tr>
<th>Description</th>
<th>Service duration</th>
<th>Camp training</th>
<th>In-school training</th>
<th>Difficulties in preparing for employment</th>
<th>Dissuasion from others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>48%</td>
<td>16%</td>
<td>13%</td>
<td>13%</td>
<td>10%</td>
</tr>
</tbody>
</table>

3.3. Factors limiting the acquisition of outstanding ROTC cadets

3.3.1. Difficulty in recruiting troops

Although most organizations in society operate manpower, it is a reality that selecting and acquiring manpower is currently becoming more difficult than any other organization in military organizations that operate troops. The reason is that the distribution of desired personnel in the military is less diverse than in other organizations in society. For example, companies usually do not impose restrictions on age from 24 (college graduates) to 32 or age, or no age restriction, whereas in the case of the military, it is difficult to obtain excellent manpower due to the limited age group from 20 to 27 years old as of the date of appointment[16].

According to data from the National Statistical Office, Korea's military service resources (based on the male population aged 20) are expected to decrease by 120,000 over the past eight years from 350,000 in 2017 to 260,000 in 2022 and 230,000 in 2025. Therefore, since the future 20-year-old male population is a possible military service resource in the future, recruitment of troops in the future will be more difficult than it is now[20].

3.3.2. Difficulty in obtaining manpower due to shorter military service duration

As shown in <Table 4>, the service period of ROTC officers has been maintained for 28 months over the past 50 years, but the service period of enlisted soldiers has been continuously reduced, reducing the current service period to 18 months, half of the 36 months. If one is appointed as an ROTC officer, one will serve in the military 10 months longer than the regular enlisted soldiers.
It is expected that the application rate will be further reduced in the future as college students who are eligible for military service will prefer regular military service to ROTC cadets.

Table 4. The course of transition between ROTC officers and mandatory military service soldiers.

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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>ROTC (months)</td>
<td>24</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>Regular military service (months)</td>
<td>30</td>
<td>36</td>
<td>33</td>
<td>30</td>
<td>26</td>
<td>24</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>Difference (months)</td>
<td>-6</td>
<td>-8</td>
<td>-5</td>
<td>-2</td>
<td>+2</td>
<td>+4</td>
<td>+7</td>
<td>+10</td>
</tr>
</tbody>
</table>

3.3.3. Lack of practical economic compensation for ROTC cadets

It can be said that the least expensive course among the officer training courses is the training course for ROTC cadets. According to data from the National Assembly’s Defense Committee in 2020, one-person training expenses of 238 million won will be invested for four years for cadets of the Korea Military Academy, about 127 million won for Korea Army Academy, and about 138 million won for Armed Forces Nursing Academy. In contrast, for ROTC cadets was 17 million won over two years, which is only 13% of the Military Academy cadets[21][22].

The Military Academy and Army Academy are set as defense budgets and provide all support to individual education, but ROTC cadets are legally college students, so there are no scholarships set as national budgets, except for KRW 68,000 for short-term service promotional allowance, and KRW 700,000 to 800,000 for training during vacation [23]. Recently, there are scholarships provided by ROTC National Assembly and universities on their own, but as shown in Table 5, poor economic support provided to ROTC cadets is far from the recent trend of social welfare policies, such as an increase in sick pay and minimum wage.

Table 5. Comparison of soldier salary, minimum wage, and payment for ROTC cadets (2021).

<table>
<thead>
<tr>
<th>Description</th>
<th>Enlisted soldiers (for sergeant)</th>
<th>Min. wage</th>
<th>ROTC cadets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per month</td>
<td>609,000 KRW</td>
<td>1,822,480 KRW</td>
<td>Training support allowance : 68,120 KRW</td>
</tr>
<tr>
<td>Remarks</td>
<td>To be increased to 670,000 KRW by 2022</td>
<td>8,720 KRW / hour</td>
<td>Camp training duration: Junior year-694,200 KRW, senior year-788,700 KRW</td>
</tr>
</tbody>
</table>

3.3.4. Difficulty in managing in one’s academic performance

College students are building individual competitiveness by accumulating numerous "specifications" such as training in addition to major studies for employment after graduation. On the other hand, ROTC cadets must have graduation certification qualifications (credit scores, thesis, practice, mileage, etc.), and military education such as in-school training and winter and summer enlistment training, so there are limitations for managing their college performance [24][25].

In particular, 4th-year ROTC cadets who are about to graduate and be commissioned are having more difficulty managing their performance and records because they have to prepare for a comprehensive military officer evaluation for officer appointment in a timely manner [26].
4. Improvement Plan for Obtaining Outstanding ROTC Cadets

4.1. Improving equity between service duration of ROTC and regular enlistees

The Ministry of National Defense said in its 2021 National Defense Committee submission data that it is considering short-term officers (e.g. ROTC officers) to shorten the military service duration. In response, there are many opposing opinions in that if the service period of the officer is reduced, more new officers should be selected. This results in an increase in the selection requirement of short-term officers when the service period is shortened in a situation where military service resources are scarce, so careful reviews are needed. Therefore, the wisest way is to ease the burden of military service without increasing the selection requirement for short-term officers. Accordingly, the most efficient way to improve the application rate is to reduce the service period of ROTC officers from the current 28 months to 24 months. In fact, in the case of the Navy or Marine Corps, the ROTC service period is 24 months. Shortening the service period of ROTC officers may lead to problems of reducing the skill and combat power of junior officers, but it can be solved by selecting in connection with college majors and military departments, pre-education during training, and securing military task classification periods.

4.2. Improving economic support

In order to increase the annual application rate for ROTC cadets, the need to raise the financial support for ROTC cadets has been steadily raised, and the Ministry of National Defense recently announced a plan to raise the support fund for ROTC cadets. According to data submitted by the Ministry of National Defense to the National Defense Committee in 2021, the budget for raising incentives paid to short-term service officers such as bachelor’s and ROTC officers to 6 million won, up 50% from 4 million won, was reflected in the 2022 budget[27]. In addition, a new ROTC capacity building activity fee of 80,000 won per month (excluding the enlistment training period) is also being promoted. This is due to the need to improve the treatment of ROTC cadets in order to improve the ever-falling application rate. In addition to this temporary increase, it is necessary to pay a certain amount to them keeping abreast with the social development in the future[28].

4.3. Improving study conditions for ROTC cadets

ROTC cadets have a great burden on both their major classes and military studies during college life. Therefore, in order to improve the application rate for ROTC cadets, it is necessary to prepare relief measures for university major classes in parallel with military studies. The solution is to prevent disadvantages in attempted major classes due to military studies and training through agreements between the Ministry of National Defense and universities to guarantee study conditions for ROTC cadets. For example, it is possible to consider ways not to penalize credit by applying additional supplementary lectures to guarantee study conditions or replacing them with separate assignments[29].

Currently, each university is preparing measures to reduce the burden by improving unfavorable regulations on the academic management of ROTC cadets, and many universities are introducing credit certification systems that include military courses or enlistment training during winter and summer vacations. This is because ordinary college students can continue their studies such as completing seasonal semesters, studying certificates, and domestic and international training during vacation, but ROTC cadets are relatively restricted from doing additional studies because they must receive military training during vacation.

Therefore, it is expected to have the effect of improving the support rate by reducing the burden of academic management in cooperation with the Ministry of Education to recognize enlistment training conducted in winter and summer as credits.
4.4. Preparing groundbreaking promotion plans

Currently, the public relations system for recruiting ROTC cadets is poor, and high school students and college students who are about to join the military are not fully aware of the system. In addition, due to the lack of a promotional budget, all-round publicity by the mass media is limited, and each school group uses its own promotional materials and military candidates to temporarily promote college students in the school. As a result, the promotional effect is not noticeable.

Therefore, systematic and extensive publicity is needed in order for many people to apply for ROTC cadets with the effect of publicity in the future[30]. It is necessary to promote middle and high school students, who are potential applicants interested in future careers, teachers, and parents who guide them. In addition, by organizing a public relations organization at the Army level, online briefing sessions using Facebook, webtoons, and Internet broadcasting can be promoted in consideration of the characteristics of the new generation. In addition, it is necessary to drastically expand the promotion activities for enlisted soldiers in connection with the Military Manpower Administration and for middle and high school career education through business cooperation with the metropolitan and provincial offices of education. In addition, it is necessary to actively and planned budget securing activities of the department in charge of the related budget in order to have various public relations systems.

5. Conclusion

Military organizational studies have been continuously conducted in various areas (e.g., culture, leadership, system, strategy, organizational behavior, etc.)[31][32][33][34][35].

Unlike previous studies, this study focused on the problems and improvement measures facing the acquisition of ROTC cadets who occupy most of the junior officers, the beginning of the military's combat power at the spearhead. In this study, under what factors college students decide to serve as officers and why they avoid applying for ROTC cadets and provide them to the military so that they can use them as basic data to obtain excellent ROTC cadets in the military. Based on these research data in the future, institutional improvement is required to secure ROTC cadets with the capabilities required by the military.

As for the improvement of the system, first, it is necessary to make efforts to shorten the service period of ROTC cadets to an appropriate period by prospectively reviewing them according to changes in the social environment.

Second, realistic economic compensation is needed for ROTC cadets.

Third, it is necessary to reduce the burden of academic management, such as the full introduction of the credit certification system.

Lastly, it includes the use of various promotional methods for recruiting candidates and securing promotional budgets.

As suggested in this paper, if the institutional supplementation is made to solve the difficulties of ROTC cadets who are conducting both university studies and military training, the application rate of ROTC cadets will be dramatically improved. The limitation of this study is that the scope of the study was limited to the Army, and among the Army officer training courses, only ROTC cadets were studied. In the future, it is expected that comprehensive research will be conducted, including not only the Army but also the Navy and Air Force officers’ training courses, the Army’s bachelor’s officers, and senior officers.
6. References

6.1. Journal articles


### 6.2. Thesis degree


### 6.3. Additional references


### 7. Appendix

#### 7.1. Authors contribution

<table>
<thead>
<tr>
<th>Initial name</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Author</td>
<td>-Set of concepts ✔</td>
</tr>
<tr>
<td></td>
<td>-Design ✔</td>
</tr>
<tr>
<td></td>
<td>-Getting results ✔</td>
</tr>
<tr>
<td></td>
<td>-Analysis ✔</td>
</tr>
<tr>
<td></td>
<td>-Make a significant contribution to collection ✔</td>
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<td>-Final approval of the paper ✔</td>
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<td></td>
<td>-Corresponding ✔</td>
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<td>-Play a decisive role in modification ✔</td>
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<tr>
<td>Corresponding Author*</td>
<td>-Significant contributions to concepts, designs, practices, analysis and interpretation of data ✔</td>
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<td></td>
<td>-Participants in Drafting and Revising Papers ✔</td>
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<td>-Someone who can explain all aspects of the paper ✔</td>
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