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**Psychological and methodological aspects of the generational dimension of
leadership selection in the Hungarian Defence Forces**

author's description of a doctoral thesis (PhD)

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Tartalomjegyzék

RESEARCH PROBLEM	3
RESEARCH AIMS AND HYPOTHESES	4
RESEARCH METHODS	5
BRIEF DESCRIPTION OF THE RESEARCH	6
SUMMARIZED CONCLUSIONS	8
NEW SCIENTIFIC RESULTS	11
PRACTICAL USE OF RESEARCH RESULTS, RECOMMENDATIONS	12
THE AUTHOR'S LIST OF PUBLICATIONS ON THE SUBJECT.....	15
PROFESSIONAL SCIENTIFIC CURRICULUM VITAE	16

RESEARCH PROBLEM

The changes in security environment, the conflicts (Russia-Ukraine conflict, civil wars in the Middle East and Africa, tensions between the United States and China), the gradual emergence of artificial intelligence and the new generations of AI are also a major challenge for public service institutions. All this inevitably calls for a paradigm shift in leadership.

The study of leadership and related competencies is a highly relevant topic in the field of human resource sciences and psychology. An important question is what competences effective leaders have and what psychological attributes are important in the selection. The identification of effective leaders has become even more important in the new context, where good leadership has even more value in times of uncertainty, change and crisis. The process and methods of officer selection are vital, as the selection of officer candidates determines who, with what skills and abilities, will be able to fill military leadership positions in the future.

Over the centuries, military leaders have been selected according to many criteria: military skills, noble birth, wealth, physical or political strength, etc. In today's world, military commanders are chosen from among those who can be officers. A newly appointed, junior officer can become a general in charge of thousands of soldiers. It is obvious that the selection of junior officers should be based on parameters that have long-term advantages, so it is important to review the selection methods for military leaders in the light of changes in the military, the world and geopolitics.

With such diversity of technical resources, we cannot ignore the diversity of the human resources. There are currently three different generations represented in the Hungarian Defense Forces: generations X, Y and Z. There are significant differences in communication and attitudes between these groups, not only according to the literature, but also based on everyday experience. The question is how the members of each generation can communicate with each other, how they can cooperate and lead subordinates from different generations. In the military, all three generations can be found in leadership positions. The first step is to look at their personality traits: to see their similarities and differences. This can help them to find common ground later resulting in an increase in cooperation.

The next source of the problem is the military's leadership selection system, which currently includes recommendations and elaborate Assessment Center (AC) tasks. Leaders "only" must pass an aptitude test to be promoted to a staff or higher position. For the future, it would certainly be useful to fine-tune the current system of aptitude tests, in particular the personality test, as over the years the Institute of Aptitude Testing of the Hungarian Defense Forces has

accumulated considerable experience in this field. If we want to achieve a paradigm shift in military leadership, it is important to ask what leadership competencies the current leadership has and what method is used to test them. Furthermore, what similarities and differences can be observed between different generations of military officers and the current cadre of military officer candidates. Subsequently, it can be determined how the socialization of the current leadership could be modified to bring the Hungarian Defense Forces closer to the Anglo-Saxon leadership system. The scientific problem is therefore basically summarized in the following points:

- The paradigm shift makes these changes - both in terms of methodology and content - necessary to modernize the system of psychological fitness testing in the armed forces,
- the selection system must have a long-term predictive validity,
- psychological selection must necessarily consider the three generational structures of leadership.

RESEARCH AIMS AND HYPOTHESES

In view of the scientific problem presented, I have defined my research objectives, and the research hypotheses of my empirical investigations as follows:

H1: I assume that military leaders belonging of different generations differ from each other in terms of personality traits. (Due to the different characteristics of the new generations, the methodology for processing data obtained in the suitability test requires modernization or modification)

H1.A.: I assume that there is a difference in personality trait and leadership competency GPA scales between Generation X and Y military leaders.

H1.B.: I assume that there is a difference in the GPAQ scales of personality traits and leadership competencies between Generation X and Generation Z military leaders.

H1.C.: I hypothesize that there is a difference in personality characteristics and leadership competency GPA scales between Generation Y and Generation Z military leaders.

H2: I hypothesize that there are differences between Generation Z military officer candidates (student cadre) and officers of the same generation who have already had troop training.

H3: I assume that the current appraisal system does not differentiate sufficiently in the case of military leaders.

1. My aim is: Generational differences in personality traits significantly influence the psychological characteristics of military leadership competencies. This can significantly influence the development of an effective leadership style in totalitarian organizations, such as the Hungarian Defense Forces. Therefore, my research aims to detect differences in leadership competencies through empirical investigation. I want to investigate whether the experience of Generation Z military personnel has a similar effect on leadership competencies as Generation X and Y. (In my research I want to make a comparison between different generations of military leaders that has not been done before.)

2. My aim is: to investigate how the characteristics of Generation Z military leaders with team experience are similar and different from those of Generation Z military officer candidates.

3. My aim is: to investigate and propose a possible modernization of a psychologically based management evaluation system, which is more adapted to the phenomena listed above and different in its approach from the current one.

RESEARCH METHODS

A prerequisite for carrying out my research is the preparation of a research plan. To do this, I first collected, analyzed and evaluated the relevant literature, and then defined my research objectives, hypotheses and methodology. To achieve my research objectives and to validate my hypotheses, I used the personality test of the General Personality and Leadership Virtues Questionnaire (PSQQ), which contains 300 questions and can be completed in about 30 minutes.

I reviewed the military aptitude testing and selection systems of nine countries. I analyzed the psychological testing procedures and examination systems used by the Hungarian Defense Forces and its predecessor institutions since the early 20th century. I studied the production interface of the examinations used. Based on the above, I summarized my research objectives and formulated my research hypotheses.

I used a descriptive method to analyze the psychological characteristics of military leadership and its relevance to generational differences. I validated my hypotheses through

empirical research (a total of 4,780 contract and professional military leaders participated in my research). I completed the data collection and analysis of my empirical research in May 2023.

In the data analysis, I first determined the mean and standard deviation of the GPA scales of military leaders of the three generations (X, Y and Z).

After determining the mean scores of the GERD scales for each generation, I compared them to see which scales had significant differences between age groups.

In my research, I created a new benchmark from the available study sample. First, I performed a statistical analysis of the sample (4720 persons), determining the mean and the standard deviation for each scale of the SAEFL test separately. The mean for each scale was 68% of the sample.

BRIEF DESCRIPTION OF THE RESEARCH

The *introduction* to my thesis, formulates the scientific problem on which my research is based, justified the timeliness of my choice of topic, and defined the objectives and hypotheses of my research. The thesis is an overview of the theoretical background to my professional assumptions. I have reviewed the relevant literature on the topic in five shorter chapters. The sixth chapter presents the results of empirical research.

The *first chapter* presents the theoretical background of leadership, examined the relationship between leadership and power, the differences between leadership and management, both based on the influence over subordinates and soldiers. Both activities require working and collaborating with people, aiming for effectiveness, performance, and the achievement of common goals. Leadership can be an emergent role or an appointed one. Most military leaders are appointed to their positions. Qualifications include proactivity, complexity, ethical behavior, people skills, problem solving, attention and care for colleagues, subordinates and subordinates. Mission-oriented leadership can be a response to the ever-changing operational environment of the 21st century, hybrid warfare, evolving technology. If we want leaders who can successfully apply mission-oriented leadership, it is important to assess competencies and skills, examine leadership potential, develop shared values and mission understanding, examine performance under stress, collaborate, train and develop, provide feedback, plan for succession, diversity, process experiences, build trust and continuous improvement.

The *second chapter* describes generational differences. There are several possible definitions of the term, including one that considers all workers entering the workplace at the same time as a generation. The generations currently present in the labor market are very different. It is not easy for the generations to understand each other, and supervisors need to address the differences between different groups of workers in order to prevent conflicts, but a good manager can use the characteristics of each generation to the advantage of the organization and achieve effective cooperation between them. Generational issues are also reflected in the Hungarian Defense Forces. Problems arising from work experience, attitudes towards autonomy and authority, enduring military socialization, accepting constraints and limitations, language skills, exposure to technology and attitudes to mental health are all issues that an effective leader must be able to address, regardless of which generation he or she belongs to.

The *third chapter* summarises the theoretical background to suitability testing and selection. I have summarized the concept of suitability and its various interpretations and dealt with the selection of managers. In this section, I described the different methods of aptitude testing and selection: the intelligence test, aptitude test, work experience test, situational interview, interview, biographical questionnaire, peer assessment of candidates, self-assessment and the Assessment Centre method. In this chapter, I have presented the aptitude testing systems of the Hungarian Defense Forces and the Prison Service, as well as the selection practices of the Defense Forces and the Police. It can be said that the presented domestic organizations conduct the selection of managers in a similar way. At the same time, the police have developed in recent years a strong professional protocol for effective selection. In the Defense Forces, the Prison Service and the Police, it is important that both candidates and those already qualified take a professionally relevant examination. In each of these organizations, psychologists examine personality characteristics, mental abilities, mental status and attentional performance. These are particularly important for their employees. Also in this chapter, I have presented the executive selection systems of the various armed forces. In the case of the police, a serious professional protocol for selection has been developed. In the defense forces, a professionally established psychological protocol for the leadership selection system is also being developed for use in practice.

In *chapter fourth* is concerned with the aptitude testing and selection methodology for the armed forces of nine foreign countries. The selection methods are in many cases like those used here, but it can be said that some form of AC method is routine in many places, or that students entering military training are already subjected to a thorough examination. In many cases the selection system is periodically reviewed. The examples presented here could serve

as a model for a well-functioning feedback-based system of executive selection and development for continuous improvement, with a career path. However, it should not be a one-size-fits-all copy of a methodology that works well abroad. It is necessary to consider the specificities of the home organization. This would require the development of a "best practice" based on experience and organizational needs, which would accompany the career of a military leader from the very beginning.

SUMMARIZED CONCLUSIONS

The basic premise of my dissertation is that the selection of military leaders is a particularly important area of human resource management in the Hungarian Defense Forces, which the organization does not pay enough attention to developing and monitoring. In my study I sought to answer the question of how different generations of military leaders are similar and differ in terms of personality traits and leadership competencies.

Furthermore, I wanted to provide empirical evidence that the criteria system of the SSCC test for military leaders does not differentiate sufficiently, with the interval widths of the assessment categories differing from the scores of the currently used assessment system.

Statistical processing of the data showed the personality traits and leadership competencies of Generation X, Y and Z military leaders and Generation Z military officer candidates with no team experience, i.e., which traits are specific, average and less specific to the different generations of leaders. In addition, the analysis revealed which leadership competencies are strengths and weaknesses of leaders belonging to different generations.

Significant differences were found between Generation X and Generation Y managers in well-being, non-anxiety, sense of responsibility, self-control, social tolerance, impressionability, sociability, performance conformity, performance independence, empathy, flexibility, emotional openness, altruism-psychoticism, social effectiveness, conscientiousness, intellect-creativity, leadership, rule-following, achievement needs, innovativeness, intellectual intelligence and general personality capacity and quality scales.

There is also a trend in the scales of intelligence and social intelligence, extraversion-introversion.

Significant differences were found between Generation X and Generation Z military leaders in dominance, social ambition, social action, self-acceptance, sense of responsibility, peer tolerance, impressionability, sociability, performance independence, psychological sense,

empathy, and flexibility, emotional openness, extroversion-introversion, altruism-psychoticism, social effectiveness, agreeableness, conscientiousness, intellect-creativity, leadership, rule-following, innovativeness, intellectual intelligence, social intelligence, general personality capacity and performance on a range of scales.

Furthermore, a trend is observed for the scales of socialization, performance conformity, intellectual efficiency.

Statistical analysis revealed significant differences between Generation Y and Generation Z military leaders on the following scales: social ambition, self-acceptance, social tolerance, intellectual effectiveness, psychological sensitivity, empathy, flexibility, altruism-psychoticism, social effectiveness, leadership, and innovativeness.

There is also a trend in the scales of socialization, vigour, sociability, general personality capacity and quality.

The statistical analysis revealed the differences in personality and leadership competencies between military leaders with Generation Z troop training and military officer candidates (student cadets) of the same generation.

Significant differences were found in sociability, social action, well-being, lack of anxiety, sense of responsibility, self-control, impressionability, performance conformity, emotional openness, stability-emotionality, extroversion-introversion, agreeableness, emotional control, conscientiousness, intellect-creativity, frustration tolerance, social competence, rule-consciousness, need for achievement, intellectual intelligence, social intelligence, emotional intelligence socialization, vigor, general personality capacity and standard for scales of social ambition, self-acceptance, social tolerance, intellectual efficiency, empathy, altruism-psychoticism, social efficiency, and executive functioning.

There is also a trend in the dominance, communality and flexibility scales.

It can be concluded that there are personality traits that appear to the same extent in all three military leader groups: sociability, stability-emotionality, emotional control, frustration tolerance, social competence and emotional intelligence.

Based on my results, the general characterization of Generation X military leaders mostly matches the characteristics identified in the literature. The results obtained by the SSCC test confirm the generational characteristics of this group: well-educated, enthusiastic about their work, and sufficiently assertive and confident. Compared to the others, they like to advance in their careers, presumably at a higher, more strategic level in the military hierarchy. They have a clear vision, i.e. they perform better when they have clear expectations and objectives.

At the same time, the literature suggests that Generation X members are typically anxious, but the results show that military leaders in this age group are anxiety-free, emotionally balanced, and often resilient to stress. They do not fear failure or rejection in performance situations.

The general characteristics of Generation Z military leaders show that they are the ones who pick and choose the rules and social norms, attaching varying degrees of importance to the opinions of others. They seem to be selective about which rules they accept and which they do not. These findings may seem surprising in military terms, but they are consistent with the findings of Katz, Ogilvie, Shaw and Woodhead, who have shown in their research that members of this generation are more likely to question rules and authority and may not always know exactly what they need in new situations.

Among the results obtained in my research, I would like to highlight the evolution of the Flexibility and Renewability scales for different generations. The values of the Flexibility scale are 43 for Generation X, 41 for Generation Y, 39.6 for Generation Z and 43 for the officer candidates. It seems that the values are higher for Generation X and the officer candidate group than for Generations Y and Z. The results suggest that Generation Y and Z military leaders have a harder time adapting to people and changing circumstances.

The Renewability Scale scores are 49 for Generation X, 47 for Generation Y, 46 for Generation Z and 45.6 for officer candidates.

These results differ from those reported in the literature and from the expected results, as it is the younger generations who are more entrepreneurial and flexible. In my opinion, the reason for the difference may be the level of management, Generation X members are more likely to hold positions at a higher management level, at a strategic level, and have more opportunities to be flexible. However, Generation Y and Z are at lower levels of leadership, which may be indicated by the values on this scale.

However, the group of military officer candidates are not yet part of the military hierarchy fully, they are still students, citizens of a university. They have not yet been socialized at the workplace, i.e. in the formations, and therefore may be more flexible.

This shows that younger age groups have a lower level of entrepreneurship and flexibility to adapt to new situations than older age groups. The personal criteria for mission-driven leadership include higher levels of autonomy, adaptability, and flexibility. However, the content of these two scales indicate precisely that these are at lower levels in the new, younger generations of military leaders. Thus, this is a problem worth addressing further.

Based on my practical experience, I note that low scores on the resilience scale have not been a problem during the aptitude testing of military leaders.

The empirical study shows that the means of some personality traits in the STSP test fall elsewhere. For each item of the personality test, I determined the mean value, the values below and above the mean, and the values low and high on a five-point scale. This type of analysis allows for a more thorough and accurate personality test.

The comparative tables show the biggest change in a case of the group of military officer candidates. Compared to the military sample, the group experiences two category jumps, i.e., moving from average to very low on the Performance Conformity, Stability-Emotionality, Emotional Control, Frustration Tolerance, and Emotional Intelligence scales. Interestingly, except for the performance conformism scale, the others are about emotion control and emotional stability.

Interesting to think about that future officers would perform worse when they told what to do. And yet, after graduation, the student officers in their first assignment will largely be at the bottom of the officer hierarchy, where they will have less leeway to assign tasks themselves.

The comparison is striking for the student group: several of the student group's scale scores have moved from low to very low. If they were compared to the group of military leaders, they would not qualify based on these scores. Therefore, we should be careful with this type of comparison, as the requirements for a military officer candidate who is currently completing his studies and has not yet had team socialization cannot be the same as for an officer with several years of experience. However, this comparison is useful to determine exactly what personality traits graduates need to develop to achieve a successful career as a military leader.

Overall, my research revealed several results differing from the general characteristics of each generation in relation to the other. These include Generation X anxiety, Flexibility and Resilience scale scores for each age group.

These results suggest that socialization in the military has a personality-forming power that goes beyond the general characteristics of each generation, creating a military generation pattern of its own.

NEW SCIENTIFIC RESULTS

I have collected, analyzed and evaluated the national and international literature in terms of the aptitude testing and selection system and generational differences, providing a broad and consistent basis for further research.

I have created a separate, statistically analyzable database of the psychological aptitude test results of professional and contracted military leaders who have taken the aptitude test in the last 10 years, which provides the opportunity for further research.

I have empirically demonstrated that there are significant differences between the personality traits and leadership competencies of different generations of team leaders, which can be used to identify characteristics that can help to improve leadership development and the effectiveness of day-to-day collaboration.

I was the first in the Hungarian Defense Forces to compare the personality traits of Generation Z military leaders and Generation Z military officer candidates based on empirical data. Based on empirical data, I was the first to verify the differences between the personality traits and leadership competencies of Generation Z military officer candidates and officers with troop training. These insights can contribute to the development of a practical background for successful socialization in the workplace.

Using statistical methods, I created a new benchmarking system to evaluate the scales of the questionnaire of the SIAE. By fine-tuning the scales, an adequate lead selection and development system can be created in the future. For each item of the personality test currently used in the aptitude test, I have determined the mean score, the scores below and above the mean, and the scores low and high on a five-point scale. This type of analysis allows for a more thorough and accurate personality test, which makes it easy to determine the presence of existing competencies and their deviation from the ideal, thus showing what skills need to be developed to make the person tested a more effective leader. In this way, the management assessment system can be made more concrete in the future, as the development potential can be quantified.

PRACTICAL USE OF RESEARCH RESULTS, RECOMMENDATIONS

Based on my professional experience and studies so far, I believe that the selection of psychological leaders is of central importance for the armed forces and should be more prominent in the human resources policy of the Hungarian Defense Forces.

In our country, a psychological laboratory was established in the 1970s to screen out "people with problems". The Kecskemét Aeromedical Health Research Institute was also set up at the same time, where tests were carried out for the air force and the institute was responsible for selecting astronauts. There were two systems at this time: a negative selection (screening out the unfit) and a selection process (selection of astronauts).

At present, aptitude tests are carried out at the Aeromedical Fitness Testing and Healing Institute in Kecskemét, which still serves as a negative screening center, and tests for the air force continue to be carried out here. However, there is a step missing which deals with selection, more specifically the selection of senior staff. Examples from abroad show how effective and capable military systems are in conducting serious psychological screening and set entry requirements for their future leaders.

Due to the nature of military tasks, the organizational culture of the armed forces and the characteristics of the different generations of personnel, it would be essential to create a leadership selection system for the Hungarian Defense Forces, which considers the characteristics of each generation. The leadership characteristics I have empirically examined, the similarities and differences between the different generations, and the new standard I have created could contribute to the development of aptitude tests and provide a good basis for the development of a leadership selection system.

The theoretical analyses and empirical test results provide an opportunity to develop a new, more coherent fitness testing system, which would cover the whole spectrum of the military fitness testing system from recruitment to leadership, and thus create a coherent psychological fitness testing system that could operate from recruitment to demobilization or retirement.

Based on the data from the aptitude test, good individual feedback can be provided to assess and develop aptitude potential, which can help self-development, so the system is not only a selection tool but also a tool for military socialization.

Based on a review of the literature, national and international examples of psychological leadership aptitude testing and selection, and my empirical research, I make the following recommendations and suggestions:

- The selection of leaders should be given much more emphasis in the human resources policy of the Hungarian Defense Forces. In parallel with the acquisition of new military equipment and in line with the new conflicts in the world, we must not forget the renewed role of leaders. They are the ones who are responsible for their subordinates and for technology. After all, "war is fought with weapons, but won with men".

- Drawing on domestic Armed Forces and international experience, I propose the development and implementation of a coherent, multi-stage selection system that would start before the student enters the cadre:

- The first step would be an aptitude test, which would retain its screening function.
- A rigorous selection system would be built on this, using the recommendations of the psychological protocol and the already existing developed managerial AC tasks.
- After the selection phase, the candidate could receive feedback on his/her performance, with suggestions for improvement.
- This would allow for a more thorough and rigorous selection process. The "harder" recruitment criteria could also enhance the prestige of the military leadership profession.
- Continuous feedback and testing of performance is essential to make the selection and selection system more effective. This is the measure of the effectiveness of selection.

I propose the development of an assessment system for current military leaders that provides an accurate picture of leadership skills and areas for improvement. To do this, I propose to introduce a new SSCE evaluation system that I have developed that will show these areas.

I recommend the development of development programs leading to the above-mentioned development, with a content that includes practical elements in addition to theoretical training.

I recommend that the current system of aptitude testing be professionally reviewed and updated based on the protocol on military psychology currently being developed and implemented.

THE AUTHOR'S LIST OF PUBLICATIONS ON THE SUBJECT

Article in a Hungarian language journal in Hungarian

1. Tóth Eszter: Nők az Űrben - Hadmérnök IX. évfolyam. 3. szám p.: 204-208, 2014
2. Tóth Eszter: A katonai alkalmasság vizsgálatok múltja, jelene és lehetséges jövője - Honvédségi Szemle, 143. évf. 2015./6. szám p.: 75-84
3. Tóth Eszter: A katonai vezető kiválasztás és felkészítés pszichológiai aspektusai - Hadtudományi Szemle, 2017. X. évfolyam 3. szám p: 613-620
4. Tóth Eszter: Vezető kiválasztás a Magyar Honvédségben - Hadtudományi Szemle, 2023. 16. évf. 2. szám

Article in a Hungarian language journal in a foreign language

5. Tóth Eszter: Preparing Leaders Against Hostile Psyops activity- Hadtudományi Szemle, 2017. X. évfolyam 3. szám p.: 411-428
6. Tóth Eszter: Occupational socialisation opportunities for teenagers within the Hungarian Defence Forces - Hadtudományi Szemle, 2017. X. évfolyam 3. szám p.: 592-601

PROFESSIONAL SCIENTIFIC CURRICULUM VITAE

Eszter Tóth was born in Debrecen in 1981, graduated from the Jókai Mór High School, and obtained a degree in psychology from the University of Debrecen in 2007.

In 2007, she started working at the Institute of Aptitude Testing of the MH HEK as a civil servant, and after her basic military training, she was promoted to the rank of lieutenant. Her main duties were military and law enforcement fitness tests.

In 2011, she was transferred to the Institute of Aeromedical Fitness Testing and Healing in Kecskemét, Hungary, to the Psychology Department.

In 2013, she graduated from the Budapest University of Technology, Budapest, with a degree in Work and Organizational Psychology.

She was promoted to Captain in 2014.

In 2016, she was transferred to the Ministry of Defense, Department of Education of the Training and Education Group Headquarters, where his main task was to develop the Defence Cadet Programme.

In 2019, she was transferred to the Department of Psychology at the Defense Hospital, to the Organizational Psychology Sub-Division.

She started her doctoral studies as an individual trainee in the autumn of 2023 and obtained her absolutory in January 2024.

She has an intermediate language exam in English and a basic language exam in German. The number of her scientific publication in the Hungarian Archives of Scientific Works is 6, 2 of those are in English.