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Cadets' Cognitive Independence as a Leading Factor of their Successful Training

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Abstract: *The key indicators of personal achievements and professional accomplishments, in particular, education, effective communication skills, self-esteem, and worldview, and the appropriate degree of professionally significant qualities are often formed and developed based on a high level of cognitive independence. Given this, the cognitive independence of a personality can determine the vector of his or her successful actualization in the course of education and professional activities. The article aims to study the manifestation of the indicators of cognitive independence in cadets and their relationship with academic performance. The empirical research involved 132 fourth-year cadets of the National Academy of Internal Affairs (Kyiv). The cadets' cognitive indicators were assessed by the expert group consisting of the research and educational personnel of the National Academy of Internal Affairs (12 people). The cadets' cognitive independence results were determined by four main components: motivational, activity, psychological, and ideological. It has been found that cadets' cognitive activity is in direct correlation with their gnostic abilities, which determine the quality, speed, and effectiveness of their cognitive independence. The research has found that the cognitive independence of future specialists is reflected in their further personal and professional self-actualization and manifests itself at three levels: professional self-determination (training in the chosen specialty), individual development, and personal formation. It has been stated that cadets generally demonstrate a sufficient level of readiness for cognitive independence during their educational activities. Given this, there is a need to create a favorable educational environment for the development of cadets' cognitive independence, which in the future can be reflected in the positive indicators of their education and professional activities.*

Keywords: *cadets, cognitive independence, components, training, professional activities.*

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1. Introduction

Modern society puts forward new requirements for the personality of a professional, requires him or her to have the ability to adequately and quickly respond to innovations in culture, science, economics, political changes (Bondarenko, et al., 2020a; Nykyforchuk, et al., 2022). An important requirement for the personality of a modern specialist is the ability to make decisions quickly and effectively and take responsibility for their consequences. All this requires from specialists the ability to find answers to problematic issues in the shortest possible time, to independently navigate in the multitude of information provided by the media, the Internet, to learn to separate the main from the secondary, true information from fake, to look for the most reliable and authoritative sources of scientifically based information, in other words – to develop their own cognitive independence. It can be defined as a readiness to actively, energetically master knowledge.

The key indicators of personal achievements and professional accomplishments, in particular, education, effective communication skills, self-esteem, and worldview, and the appropriate degree of professionally significant qualities are often formed and developed based on a high level of cognitive independence. Such components of the formation of the personality of a modern specialist as orientation, professional competence and professionally important qualities are also impossible to imagine without a high level of cognitive independence. It is impossible to develop such criteria as educational productivity, identity and aptitude without the development of this psychological phenomenon of the personality.

The present puts forward fundamentally new requirements for the qualifications of a modern law enforcement officer, his or her moral maturity, general cultural and intellectual levels. In order to successfully perform his or her service and civic duty, a law enforcement officer must be an educated, highly cultured person, possess deep professional knowledge and skills in various fields, as well as be able to constantly improve his or her level of knowledge and skills. That is why the cognitive independence of the personality of a law enforcement cadet should be considered an integral factor in successful training and further professional activities (Baylis, & Matczak, 2019; Bondarenko, et al., 2022; Fuchs, 2022; Harkin, & Whelan, 2021; Kubaienko, Okhrimenko, Kryzhanovska, Kislitsyna, & Hryshchenko, 2021; Prontenko, et al., 2020; Staller, Koerner, Heil, Abraham, & Poolton, 2022).

The role of cognitive independence in the formation of the personality of the future professional is determined in the works of the researchers (Ball, 2014; Bjerregaard & Lord, 2004; Bukhlova, 2003; Ivanova

et al., 2020; Miroshnichenko, et al, 2019; Ostapovich, et al., 2020; Prysiazhniuk, et al., 2020; Stout, 2021; Tsiuniak, et al., 2020; Tynybayeva, et al., 2020). At the same time, some scientists pay attention exclusively to the peculiarities of cognitive activities of higher education students during the learning process (Filatova, et al., 2022; Griban, et al., 2022; Korneshchuk, 2017; Koval-Mazyuta, Bakhmat, Sonechko, Fedotov, & Kustovska, 2023; Maistrenko, 2021; Molina, 2018; Prontenko, et al, 2019; Romanchenko, et al., 2021; Sheremet, et al., 2020; Terpstra, & Schaap, 2021; Zhamardiy, et al., 2019).

In such a case, the issue of cognitive independence of cadets as a factor of successful training and their further professional activities remains insufficiently disclosed today. The importance of cognitive independence in the formation of a modern law enforcement specialist during training and insufficient coverage of this problem in the scientific literature led to the choice of the research topic.

The aim of the research is to study the manifestation of the indicators of cognitive independence in cadets and their relationship with academic performance.

2. Methodology

The empirical research, яке було організоване у 2021 році, involved 132 fourth-year cadets who studied at the National Academy of Internal Affairs (Kyiv), specialty "Law". The cadets' cognitive indicators were assessed by the expert group consisting of the research and educational personnel of the National Academy of Internal Affairs (12 people).

Research methods: analysis and synthesis of literary sources, study of cadets' indicators of cognitive independence, observation, survey, expert assessment, methods of mathematical statistics. In addition, we used the method of correlation analysis to establish the relationship between the peculiarities of cognitive independence of the personality and the success of his or her professional activities.

Assessment of cadets' cognitive independence was carried out according to four components (motivational, activity, psychological, and ideological) using the following tools: the author's questionnaire to identify the attitude of cadets to the need to develop cognitive independence in the training process; methodology for determining the motivation of success and fear of failure (Barrett et al., 2003); methodology for diagnosing the volitional potential of the personality and methodology for determining the level of self-esteem (Halyan, 2011) (Table 1).

Table 1. Tools for the study of cadets' cognitive independence

Structural component	Name of the research methodology	Objective
Motivational component	Motivation of success and fear of failure	Diagnostics of motivation for educational activities of a person
Activity component	The author's questionnaire to identify cadets' attitude to the need to develop cognitive independence in the training process	Diagnostics of awareness of the need for cognitive independence for the manifestation of success in training
Psychological component	Diagnostics of volitional potential of the personality	Determination of the peculiarities of the volitional potential of cadets, including volitional activities, which is necessary for cognitive independence
Ideological component	Determining the level of self-esteem	Diagnostics of personality self-esteem peculiarities, including assessment of the possibility of own cognitive independence

Source: Author's own conception

The methodology for determining the motivation of success and fear of failure consists of 20 questions, each of which provides a "yes" or "no" answer. Scoring is carried out in accordance with the key. According to the number of points received, there are three levels of motivation: *level I* (from 1 to 7 points) is interpreted as motivation to fail; *level II* (from 8 to 13 points) – motivation does not have a clear expression, in other words includes both motivation to success and motivation to avoid failure, depending on the situation; *level III* (from 14 to 20 points) – motivation to success.

The author's questionnaire to identify cadets' attitude to the need to develop cognitive independence in the training process includes 8 questions. The analysis of the results of the research is carried out according to the following criteria: *from 0 to 3 points* – a low level of formedness of ideas about the need to develop cognitive independence of the cadet; *from 3.5 to 5 points* – a moderate level of formedness of ideas about the need to develop cognitive independence of the cadet; *from 5.5 to 8 points* – a high level of formedness of ideas about the need to develop cognitive independence.

The methodology for diagnosing the volitional potential of the personality is a test questionnaire that contains 15 questions, each of which provides three options: "yes", "I don't know", "no". The results are processed according to the key. According to the results of the research, we have the opportunity to

assess the cadet's willpower: *1-12 points* – a low level of willpower; *13-21 points* – a moderate level of willpower; *22-30 points* – a high level of willpower.

The methodology for determining the level of self-esteem includes 32 judgments, each of which provides 5 answer options: very often – 4 points; often – 3 points; sometimes – 2 points; occasionally – 1 point; never – 0 points. The results of the research: *from 0 to 25 points* – a high level of self-esteem; *from 26 to 45 points* – an average level of self-esteem; *from 47 to 128 points* – a low level of self-esteem.

3. Results

Assessment of the level of formedness of the motivational component of cadets' cognitive independence shows that most cadets understand the importance of their own cognitive activities for successful training. According to the results of using *the methodology for determining the motivation of success and fear of failure*, it was found that the average group score is 13.2, which corresponds to a clear trend of motivation to success (Table 2).

Table 2. Motivation of cadets to achieve success and avoid failures (the indicator of the motivational component of cognitive independence), n = 132

Levels of motivation	Number of persons	%
Low	24	18.2
Average	32	24.2
High	76	57.6

Source: Author's own conception

A low level corresponds to the motivation to avoid failure or fear of failure. Of the total number of respondents, this level of motivation is inherent in 18.2 %. We believe that cognitive independence does not play a leading role in the training process for such people. This type of motivation is considered negative. Such a cadet is able to study, and in some cases even to show diligence in training, but he or she is not interested in the success of the case, he or she is only interested in his or her own interest and benefit, and the leading motives may be motives such as: "not to be expelled from the higher educational institution", "to avoid punishment", etc. In other words, the basis of this type of motivation is the idea of avoidance and negative expectations. It should be noted that such people may be characterized by negative psychological characteristics and personality traits, such as anxiety, low self-esteem, low level of harassment, etc. At the same time, for such personalities, avoidance of failure can serve as an incentive for increased professional responsibility.

An average level characterizes almost a quarter of the respondents – 24.2 %. It should be assumed that the motivational pole of such respondents does not have a bright expression. In other words, such cadets may have both motivation to success and motivation to avoid failures in their training, depending on the situation in which their educational activities are currently taking place. It is also believed that respondents who collected 8-9 points tend to avoid failure, and those who have the result within 12-13 points tend to achieve success. However, in general, it can be argued that a significant part of the cadets still tend to be motivated to succeed.

More than half of the respondents (57.6 %) have a high level of motivation, which in its content is a positive motivation and corresponds to the motivation to success. This type of motivation should be considered constructive and the most acceptable in educational activities. It is the motivation to achieve success that most fully stimulates the personality to reveal its cognitive independence. People with this type of motivation are characterized by such positive psychological qualities as self-confidence, adequate self-esteem, adequate level of aspirations, perseverance, determination, proactive attitude, initiative, etc. It should be considered that the motives for success and the need to achieve it are the basis of motivation to succeed.

The next component of our research is the activity component of cognitive independence of the cadet's personality. As noted earlier, we used the author's questionnaire aimed at identifying the attitude of personalities to the need to develop cognitive independence in the training process. It was found in the course of the questionnaire that the awareness of the need to develop cognitive independence in general corresponds to 4.7 points, which is within the average level. More detailed results are reflected in Table 3.

Table 3. Peculiarities of cadets' attitude to the need to develop cognitive independence (the indicator of the activity component), n = 132

Levels	**Number of persons**	**%**
Low	28	21.2
Average	32	24.2
High	72	54.6

Source: Author's own conception

Although the ideas about the need to develop the respondents' own cognitive independence in our sample are mostly at a high level (54.6 %), almost half of the respondents are characterized by a low and average level of these ideas. That is, not all cadets within our sample are aware of the need for independent development of knowledge and its connection with the

future profession. In addition, low points in this questionnaire can also be explained by the adequacy of self-esteem and unwillingness to overestimate or underestimate themselves. In the correlation analysis, we were able to establish a high degree of correlation between the activity component of cognitive independence of the personality and academic performance ($r = 0.94$), which demonstrates the belonging of the applicant for higher education to the future law enforcement activities.

Diagnostics of the psychological component of cadets' cognitive independence was carried out using the "Diagnostics of the volitional potential of the personality" methodology as evidenced by the following indicators (Table 4).

Table 4. Cadets' volitional potential (indicators of psychological component of cognitive independence), n = 132

Levels	Number of persons	%
Low	44	33.3
Average	64	48.5
High	24	18.2

Source: Author's own conception

The results show that a third of the respondents (33.3 %) are characterized by a low level of willpower. Among a variety of activities, such cadets choose mainly those that do not require significant physical or intellectual effort, those that arouse their interest. As a rule, they take a detached position in other matters. It can be characterized by the words "Why do I need it?". Often weak willpower is combined with selfish personality traits.

About half of the respondents (48.5 %) are characterized by an average level of willpower development. The essence of this is that such persons show their own willpower depending on the need, that is, they begin to act only when they face a certain obstacle. In such a case, if it is possible to avoid the obstacle and not to show their own volitional activities, then such a way out of the situation becomes dominant. Such cadets, as a rule, show a sufficient level of responsibility, although with minimal energy costs for themselves.

A small number of the total number of respondents (18.2%) is characterized by a high level of willpower. Such cadets with a high level of responsibility are able to achieve their goals, overcoming internal and external obstacles. However, they may lack such positive qualities as flexibility, kindness, tolerance to the shortcomings of others, etc. To establish the relationship between cadets' academic performance and the psychological component of cognitive independence of the personality, we

used the correlation analysis, which allowed us to confirm a high level of correlation (r = 0.91).

We used the methodology for determining the level of ideological component in order to diagnose the peculiarities of the evaluative component of cognitive independence. The obtained quantitative data are reflected in Table 5.

Table 5. Cadets' self-esteem (the indicator of the ideological component of cognitive independence), n = 132

Levels	Number of persons	%
Low	28	21.2
Average	28	21.2
High	76	57.6

Source: Author's own conception

A low level of self-esteem is inherent in 21.2% of the total number of respondents. Cadets with this level of self-esteem react very painfully to remarks made in their address. They are more conformable, more prone to suggestion, compared to others. They are often characterized by shyness.

An average level of self-esteem is also inherent in 21.2% of the total number of respondents. This level of self-esteem leads to the fact that the cadet from time to time begins to feel uncomfortable in the process of communication or mutual activities, in other words, "feels out of place". Often, such people unreasonably underestimate their capabilities or show a rather low level of expectations in training activities.

A high level of self-esteem is inherent in more than half of the respondents (57.6%). Higher education applicants with this level of self-esteem are characterized by adequate behavior, in particular, they show adequacy in response to critical comments of others. In such a case, such subjects fully assess their own potential capabilities, which is confirmed by the correlation analysis, because we were able to determine the presence of an inverse correlation between the cadets' academic performance and the peculiarities of their self-esteem (r = -0.72).

To establish the levels of cognitive independence in the group of interest, we combined the data obtained by the motivational, activity, psychological, and ideological components. The generalized data are reflected in Table 6.

Table 6. Levels of cadets' cognitive independence, n = 132

Levels of cognitive independence	Number of persons	%
Low	31	23.5
Average	39	29.5
High	62	47.0

Source: Author's own conception

Thus, the respondents in our sample are characterized by a predominantly high level of cognitive independence, which positively affects their training activities. About 30% of cadets have an average level of cognitive independence, that is, they show it depending on the situation and only 23.5% have a low level.

The correlation relationships between cadets' academic performance and their cognitive independence are reflected in Table 7.

Table 7. The relationship between cadets' academic performance and their cognitive independence

Successfulness	Cognitive independence			
	Motivational component	Activity component	Psychological component	Ideological component
	0.98	0.94	0.91	-0.72

Source: Author's own conception

As demonstrated by the results, we observe a close relationship between the academic performance of the personality and his or her cognitive independence and we can confidently say that cognitive independence is an important factor in reflecting favorable indicators of training activities.

4. Limits and Discussion

The analysis of the organization of the educational process in higher educational institutions with specific learning environment suggests that instructors and curators do not always pay enough attention to the importance of forming all components of cognitive independence in cadets. This indicates the need to organize the process of forming cognitive independence in future law enforcement officers.

The cadet's cognitive independence should be understood primarily as a stable personal trait aimed at independent cognitive activities, independent mastering and deepening of their own knowledge in the professional field, skills and abilities to independently solve specific problems. The phenomenon of cognitive independence is inextricably linked

with human self-development, self-improvement, self-realization in both educational and professional spheres. It is impossible to form a personality as a professional, a master of his or her craft in the absence of cognitive independence (Barko, Okhrimenko, Ostapovich, Medvediev, & Sprynchuk, 2020; Fuchs, 2022; Harkin & Whelan, 2021; Terpstra, & Schaap, 2021).

It should be noted that cadets in the final stages of their training are able to show a fairly high level of cognitive independence. Exceptions may be revealed by situations of expediency of mastering knowledge during non-academic hours, which in fact reveals the presence of most positive qualities in the subjects. Such cadets are able to carry out self-education programs, independently determine and solve self-educational tasks, etc.

Many scientists see the basis of psychological recommendations aimed at improving the development of cognitive independence of modern higher education cadets in the peculiarities of motivation for effective learning (Bondarenko et al., 2020b; Maistrenko, 2021; Molina, 2018). In other words, the more motivated a future law enforcement professional is, the more efforts he or she will make to develop his or her own cognitive independence. Thus, the cognitive independence of the personality is closely related to learning motivation, and therefore motivation can serve as a leading regulator of the development of cadet's cognitive independence.

In addition, it should be noted that the psychological and pedagogical conditions of training specialists involve the creation of cognitive difficulties for mastering new professional knowledge, skills and abilities (Korneshchuk, 2017; Koval-Mazyuta, Bakhmat, Sonechko, Fedotov, & Kustovska, 2023; Zhamardiy, et al., 2019). Hence, it is advisable to talk about the expediency of creating appropriate organizational conditions for the formation and development of cadets' cognitive independence. This should include tasks for independent performance in the process of training work with the personnel of cadet training groups and training units, as well as the use of various forms of work with them (individual and group) (Cleary, & Warner, 2016; Cunha, et al., 2021; Griban, et al., 2022; Tsilmak, et al., 2020).

The obtained results confirm the findings of many scientists (Ball, 2014; Benavides, 2022; Bjerregaard, & Lord, 2004; Bukhlova, 2003; Carminatti, et al., 2021; Holovanova, et al., 2023; Ivanova, et al., 2020; Stout, 2021) and complement as well as extend them.

The conducted empirical research was agreed with the Ethics Committee of the National Academy of Internal Affairs (protocol No. 4 dated 03/12/2021). During the research, the members of the authors' team were guided by the rules of ethical behavior, in their activities they took into

account the norms, rules and conditions of academic integrity. The use of psychodiagnostic methods as a valid research tool is allowed by Ukrainian scientists on the basis of a cooperation agreement between G. S. Kostiuk Institute of Psychology of the National Academy of Pedagogical Sciences of Ukraine (as a representative of the scientific psychological community of Ukraine) and International Public Professional Organization European Federation of Psychologists Associations (EFPA) (No. 27/134 dated 12.05.1997). All cadets were shown the procedure for organizing and conducting the research, the terms of their voluntary participation, according to which they had the opportunity to refuse participation in the research at any stage of its implementation without consequences for their status.

5. Conclusions

It was found that cadet's cognitive independence is a stable personal trait aimed at his or her independent cognitive activities, independent mastering and deepening of his or her own knowledge in the professional field, skills and abilities to independently solve specific problems.

In accordance with the most commonly accepted structure of cognitive independence, the following components can be distinguished in its composition: motivational, activity, psychological, and ideological. Cadets' cognitive independence is inextricably linked with the effectiveness of their professional activities. Three levels of the manifestation of cadets' cognitive independence were revealed: professional self-determination (training in the chosen specialty), individual development and personal formation.

The research showed that the vast majority of cadets are motivated to achieve success, they actively show a high level of attitude to the need to develop cognitive independence. At the same time, the willpower of future law enforcement officers during their training is mainly at an average level, which determines the manifestations of the volitional potential of the personality depending on the need, that is, they begin to act only when they face a certain educational obstacle. As for the peculiarities of their self-esteem during educational activities, it corresponds to a predominantly high level, accompanied, in particular, by adequate behavior in response to critical comments from the immediate environment (colleagues, instructors, curators, etc.).

The obtained indicators generally characterize modern cadets of higher educational institutions with specific learning environment as having a predominantly high level of cognitive independence, which can positively influence the process of their training, and, consequently, their further professional activities. In addition, we observe a close relationship between

the success of the personality in training and his or her cognitive independence. This gives the right to assert that cognitive independence is an important factor in successful training activities.

Authors' contributions

Ihor Bloshchynskyi and Kostiantyn Prontenko were involved in the research concept and experimental design. Ivan Okhrimenko, Iryna Dekhtiarenko and Mariia Rohovenko participated in the collection of primary research materials. Ivan Okhrimenko and Ruslan Vasylchenko participated in the design and preparation of this article for publication. Kostiantyn Prontenko, Mariia Rohovenko and Ihor Bloshchynskyi carried out mathematical processing of the obtained results and their presentation in tabular forms.

Conflict of Interest

No potential conflict of interest was reported by the authors.

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