

Empirical Study of the Structure of Future Police Specialists' Professional Self-Awareness

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Abstract

The article discusses the issue of effective training for crime prevention and detection among Ukrainian police officers. Notably, it requires professional knowledge and skills to be developed at a certain level, which means the need for high professional development and a certain level of self-awareness. Thus, training, retraining, and morale of the future specialist are some of the determinatives for the successful completion of the missions that police encounter. Special features of the professional identity of the future police specialist have not been defined and structured yet. The purpose of this study is to highlight the empirical study on professional self-awareness findings, which cover its content and structure, as well as to analyse the authorial model of content and structural components of professional self-awareness among future police professionals that was developed for studies in higher educational institutions. The study analysed the problem of future police officers' professional identity and devotion to the organisation. The main research methods included the methods of S. Schwartz's theory of basic human values; methods of R. Cattell's 16 personality factor model; methods A. Rean and V. Yakunin's diagnostics of the motives of students' learning in modification of N. Badmaeva; methods of V. Stephenson's "Q-sorting" in diagnosing the main trends of behaviour in a real group and ideas about themselves; A. Zverkova and E. Eidman's test of volitional self-control; R. Schwarzer and M. Jerusalem's scales of general self-efficacy; methods of N. Hall's emotional intelligence diagnostics, analysis of the collected data. As a result, during the period of professional training in accordance with the programme methodology established by the authors, future police officers of the control sample developed such personal and social qualities as work capacity, proactivity, respect for social norms and adherence to them.

Keywords: professional training, police work, professional identification, professional's qualification

1. Introduction

During social and economic transformations, which are accompanied by the complication of the national crime situation, there is a growing important problem of the quality of professional training for specialists for the units of the National Police of Ukraine. Modern police need professionals who strictly follow the standards of their position, have high moral principles and are capable of achieving their goals and professional development. The level of their professional self-awareness has a special influence on the efficiency of police divisions specialists. A specialist, who is highly professionally self-aware, is described by self-confidence, satisfaction with the job, competence and responsibility for the professional activity (Abisheva et al., 2019). The study of professional self-awareness and the dynamics of its development during university studies is of a great interest both in theoretical and practical terms. Particularly, it allows approaching the understanding of the mechanisms of future specialist's personality development. Professional identity is defined as "attitudes, values, knowledge, beliefs, and skills shared with other members of the professional group" (Gubina et al., 2020). The development of professional identity has been defined as a continuous process influenced by several factors, including practical experience and professional socialisation (Emelyanova et al.,

2019). A significant part of this development occurs during a person's university studies. Professional identity is considered a dynamic phenomenon that continues to transform from university to working life.

Frequently, scholars (Kovalisko, 2006; Drew & Hulvey, 2007; Yang et al., 2020; Ambarova & Zborovsky, 2019; Trede et al., 2012; Tao & Wang, 2019) define such structural components of professional self-awareness that reflect its various aspects: cognitive, emotional, behavioural, value-based. The diverse discourse regarding the essence of professional self-awareness has led to various ideas about its structural components and their content in particular. Notably, the special features of the development of future police specialists' professional self-awareness are an insufficiently studied issue. Consequently, it is an important area of scientific and practical research (Grubb et al., 2019; Meier et al., 2018).

Students strive to become professionals throughout their studies. They develop a sense of their personal and professional values, beliefs and ideas through participation in the course, pedagogical and practical classes as well as through interaction with teachers, staff, and classmates (Badmaev, 1999; Rean et al., 2004; Tsvetkova et al., 2021). This dynamic and continuous interaction will allow them to develop and accumulate knowledge about their subject, their profession, others and themselves. Although there is no generally accepted definition of "professionalism" or "professional identity" for law enforcement, these terms are used to refer to attributes that are generally considered important to a police officer such as being honest, patient, compassionate, a good communicator, meticulous. The impact of professional identity on law enforcement practices has sparked special interest in understanding the concept of professional self-awareness and its development (Schaible, 2018; Hickman et al., 2016; Peacock et al., 2020; Atkins, 2018). Since university programmes play an important role in preparing students for work by promoting the development of professional identity, the authors of the study have decided to define the features of the development of future police specialists' professional identity. The purpose of this study was to highlight the empirical study on professional self-awareness findings, which cover its content and structure, as well as to analyse the authorial model of content and structural components of professional self-awareness among future police professionals during their university studies.

2. Materials and Methods

The outgoing empirical material for data factorisation were psychological variables measured by the following psychological diagnostic tools: methods of studying the personal values by S. Schwartz; methods of R. Cattell's 16 personality factor model; methods A. Rean and V. Yakunin's diagnostics of the motives of students' learning in modification of N. Badmaeva; methods of V. Stephenson's "Q-sorting" (Salling Olesen, 2001; Tamanaha, 2016) in diagnosing the main trends of behaviour in a real group and ideas about themselves; A. Zverkova and E. Eidman's test of volitional self-control; R. Schwarzer and M. Jerusalem's scales of general self-efficacy; methods of N. Hall's emotional intelligence diagnostics. The results from all scales (which serve as diagnostic criteria for the structure of professional self-awareness) obtained by these methods were used in factor analysis and further distributed into factors, each of which became a structural component of future police officers' professional self-awareness.

The research dedicated to the study of the content and structural nature of the future police officers' professional identity was conducted among cadets (young people from 17 to 22 years old) of I-IV courses of the programme "Law (police)" in "SUIA" University. It covered 136 people. Formally, the specification of the substance of this study is reduced to solving the problem of verification of the factor model of the content-structural components of the future police officers' professional self-awareness. As a part of the first stage of empirical data analysis, the dynamic features of the development of future police officers' professional self-awareness during professional training were studied. Particularly, a number of the following psychological variables were identified as characteristics relevant to the content structures of the development of individual substructures of their professional self-consciousness: "conformity", "traditions", "kindness", "hedonism", "universalism", "independence", "stimulation", "power", "achievements", "security" (studying the personal values by S. Schwartz); and a number of factors: A, C, E, F, G, H, I, L, M, N, O (method "16-PF" factor model by R. Cattell).

At this stage of the study the subject analysis was to test the hypothesis about the dynamic nature of the development of future police officers' professional self-awareness during professional training. In due form, the study solved the problem of determining the accurate nature of differences in the mean values of the degree of the psychological characteristics of the subjects differentiated by the criterion of "professional training course". For this purpose, the method of comparison of mean values and non-parametric statistical criterion of differences for directed (ordered) alternatives Jonckheere-Terpstra Test were used. The results of the first stage of empirical data analysis made it possible to state that the dynamics of development (evolution) of certain characteristics of future police officers'

professional self-consciousness during their professional training have its specific patterns. This suggests considering the professional identity of future law enforcement officers as a dynamic systemic education, which is characterised by a special logic of development of its content and structural components (Afful, 2018; Segrave et al., 2018; Schram et al., 2020).

The second stage of the study was dedicated to the examination of the content and structural nature of the future police officers' professional identity. For this purpose, the method of factor analysis was used. It is assumed that the nature and degree of the identified content and structural components of future law enforcement officers can be considered as indicators (criteria) of the level of development of their professional self-awareness. The psychological variables of the subjects, measured at the first stage of this study were outgoing empirical facts for factorisation (Robinson et al., 2019; Hietanen et al., 2018).

Table 1. Factor Model of Content-Structural Components of Future Police Officers' Professional Self-Awareness

Psychological characteristics	Factors				
	1	2	3	4	5
integrative level of emotional level	0.876				
empathy	0.825				
recognition of other people's emotions	0.792				
emotional awareness	0.737				
self-motivation	0.702				
emotional control	0.684				
scientific and educational motives		0.859			
professional motives		0.834			
social motives		0.817			
communicative motives		0.781			
general scale of volitional self-control			0.817		
self-control			0.769		
persistence			0.732		
self-efficacy			0.690		
achievement				0.795	
self-reliance				0.778	
stimulation				0.726	
security				0.684	
traditions				0.639	
factor E					0.744
factor I					-0.706
factor C					0.672
independence					0.623
factor O					-0.596

The third stage of the study was directed at studying the impact of the process of professional training on the development of future police officers' professional self-awareness and on the development of its content and structural components in particular. This stage has solved an important task of studying the nature of the relationship between qualitative indicators of the future police officers' training organisation and the level of development of content and structural components of their professional identity. Integral factors have been identified as the main content-structural

components of future law enforcement specialists' professional self-awareness, which were previously identified by factoring an array of empirical data: "*emotional competence*", "*educational and professional motivation*", "*volitional self-control*", "*value development*", "*personal development*". For this purpose, the one-way ANOVA test was used (Kovalisko, 2006; Drew & Hulvey, 2007).

At the final stage of the summative part of the research the empirical typology of future police officers was determined depending on the nature and degree of development (extent) of basic content and structural components by grouping individual factor assessments of the subjects obtained in the process of factoring the initial array of their psychological characteristics. Cluster analysis was used for this purpose (Kovalisko, 2006; Drew & Hulvey, 2007; Yang et al., 2020).

Presumably, the development and implementation of a special psychological training programme (technic) to optimise their development will be relevant in the future for those types of subjects in which the results of the study will reveal a suboptimal level of ratio (low development) of content and structural components of their professional self-awareness (Tokatligil et al., 2021). Cluster analysis was implemented by the K-means cluster method cluster centres which eventually obtained a cluster structure of individual factor assessments of the subjects. Notably, the cluster analysis procedure was carried out on the basis of five integral factors (content-structural component) of future law enforcement specialists. These factors were defined as probable factors of their professional self-awareness at the previous stage of analysis – "*emotional competence*" (emotional component), "*educational and professional motivation*" (motivational component), "*volitional self-control*" (volitional component), "*value development*" ("value" component), "*personal development*" (personal component).

At the next stage of the research a nonparametric method of differences was used for Wilcoxon signed ranks test (Kovalisko, 2006; Trede et al., 2012) to assess the effectiveness of a special psychological training programme (technic) to optimise the development of content and structural components of future police officers' professional self-awareness. In due form, it was used to determine statistically significant differences in degree of psychological characteristics of the studied control and experimental groups before and after the implementation of formative measures.

3. Results and Discussion

The obtained results of factor analysis (completeness of factorisation 57.9%; informativeness of factor I – 14.1%, factor II – 13.8%, factor III – 12.2%, factor IV – 9.2%, factor V – 8.6%) presented in Table 1, give us the opportunity to assert a sufficient total variance of factors and proceed to their analysis and content interpretation. The model's structure was determined by independent integral factors: emotional, motivational, volitional, value, personal:

– factor I, which combines six psychological variables in its structure: "*integrative level of emotional intelligence*" (0.876); "*empathy*" (0.825); "*recognition of other people's emotions*" (0.792); "*emotional awareness*" (0.737); "*self-motivation*" (0.702); "*control of emotions*" (0.684). Considering that the first factor within this factor model makes the largest contribution to the explanation of the variance of signs (14.1%), it can be argued that the content nature of future police officers' professional self-awareness is determined by their high level of emotional intelligence, empathy, emotional awareness, self-motivation. and the ability to recognise other people's emotions and influence their emotional state. Summarising the psychological variables that are included in the factor I, it is "marked" as a factor of "*emotional competence*" or "*emotional*" component.

– factor II, (motivational component) includes the following psychological variables: "*educational and cognitive motives*" (0.859) as the desire to acquire knowledge based on awareness of social necessity, responsibility, duty, personal benefit to society; "*professional motives*" (0.834) as a formed intention to develop and grow professionally; "*social motives*" (0.817); "*communicative motives*" (0.781). Considering that the second factor within this factor model makes a fairly high contribution to the explanation of the variance of signs (13.8%), it can be argued that the content nature of future police officers' professional self-awareness is determined by the high level of development of their learning motivation based on awareness of social necessity, responsibility, duty, personal benefit to society; professional motivation as a formed intention to carry out professional development and ensure professional growth; social motivation as, on the one hand, a balanced and optimal desire for self-affirmation in society, and, on the other hand, a desire to fulfil a duty to society; communicative motivation as the desire to establish and maintain the necessary contacts with others.

The future police officers' leading activities during professional training are different types of their cognitive activity including educational, professional, social, communicative ones. Therefore, the motivationally relevant nature of determining the future law enforcement officers' professional identity suggests that the integral factor is defined as an

important content-structural component of its development (establishment) during professional training. Thus, to summarise the psychological variables that are included in factor II in a meaningful way, it is interpreted as a factor of "educational and professional motivation" or "motivational" component.

– factor III (volitional component) included the following psychological variables with the greatest weight: "general scale of volitional self-control" (0.817); "self-control" (0.769); "persistence" (0.732); "self-efficacy" (0.690). Psychological variables that determine the structure of the third factor are unified by a common feature. They are all largely associated with a high degree of volitional control of one's life: stability of intentions, emotional maturity, proactivity, independence, self-reliance, self-confidence, developed sense of duty, a high level of development of these personal and social qualities. Considering that the third factor within this factor model makes a significant contribution to explaining the variance of signs (12.2%), it can be argued that the content nature of future police officers' professional self-awareness is determined by the high level of development of their volitional self-control. Thus, this integral factor can be considered as an important substantive and structural component of the development (establishment) of future police officers' professional self-awareness during professional training. Thus, to summarise the psychological variables that are included in factor III in a meaningful way, it is interpreted as a factor of "volitional self-control" or "volitional" component.

– factor IV (value component) combines five psychological variables in its structure: "achievement" (0.795); "self-reliance" (0.778); "stimulation" (0.726); "security" (0.684); "traditions" (0.639). Substantive generalisation of psychological variables contributes to identification of their common feature, which is the value-based nature of personal achievements in the field of both social and professional development. Considering that factor IV within this factor model makes a significant contribution to explaining the variance of signs (9.2%), it can be argued that the content nature of future police officers' professional self-awareness is determined by the high level of development of their value system, achievement (social approval and respect), self-reliance (self-control, independence of thinking and choice of ways of action), stimulation (desire for novelty and deep experiences), security (security for other people and oneself, stability of society and its internal relationships) and traditions (identification with traditions, customs and ideas of their profession). Thus, this integral factor can be considered as an important content-structural component of the development (establishment) of future police officers' professional self-awareness during professional training and interpreted as a factor of "value development" or "value" component.

– factor V (personal component) combines in its structure the characteristics of the subjects, which are meaningfully determined by the positive pole of three psychological variables and the negative pole of two psychological variables: "factor E" (0.744), which is related conceptually to the individual's tendency towards dominance and subordination of others; "factor I" (-0.706), which, considering the sign, is associated conceptually with the manifestation of such personal qualities as low sensitivity, empathy and understanding of others; "factor C" (0.672), which is associated conceptually with a high level of development of such personal qualities as emotional stability, working, realistic attitude towards the circumstances and situations of both social and professional life, emotional maturity; "independence" (0.623) as a tendency of individual behaviour in a real group, which characterises the desire to act independently, determination, persistence in defending own views; "factor O" (-0.596), which, considering the sign, is associated conceptually with the manifestation of such personal qualities as confidence in one's abilities, flexibility, balance, ability to calmly perceive and respond to difficult situations and unpredictable and uncertain life circumstances. The psychological variables that determine the structure of the fifth factor are largely related to the dominance of a pronounced pragmatic, rational and independent personal position over emotional, sensory and dependent personal position.

Considering that factor V within this factor model makes a significant contribution to explaining the dispersion of characteristics (8.6%), it can be argued that the content nature of future police officers' professional self-awareness is determined by a high level of personal qualities such as dominance and subordination in judgments and behaviour, the tendency to dominate over others, competition for higher social (professional) status, courage, realistic judgments, prudence, responsibility. Thus, to summarise the psychological variables that are included in factor V, it is interpreted as a factor of "personal development" or "personal" component.

Thus, empirical research results provide a basis to define indicators and factors that comprehensively represent the content and structure of future police professionals' professional self-awareness during university studies. The content of structural components determines their specificity. The results of variance analysis for each of the five integral factors (content and structural components of professional self-awareness) of future law enforcement officers are presented in a graph (Figure 1).

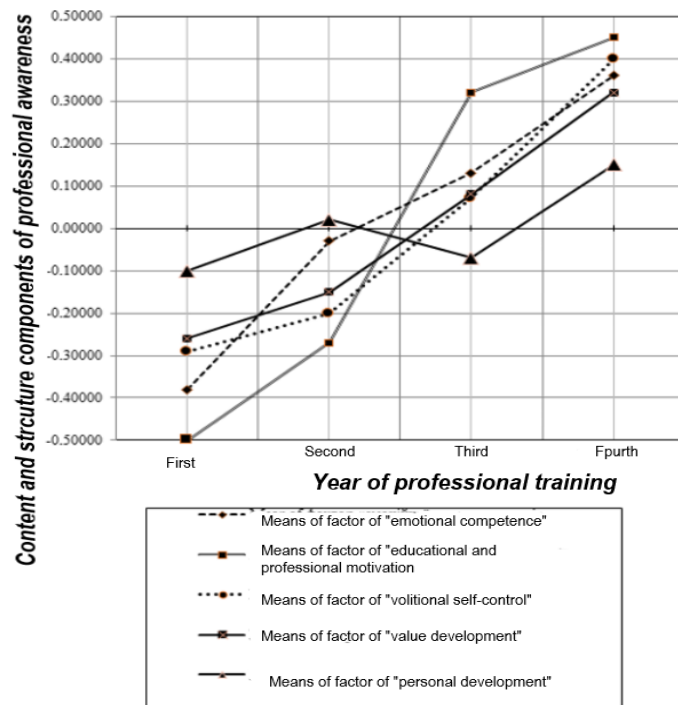


Figure 1. The Influence of Future Police Officers' Professional Training on the Development of Their Professional Self-Awareness

Thus, the study proceeded to the analysis and content interpretation of the identified patterns.

Factor of "*emotional competence*" – data presented in a graph show that the highest mean values of the degree of this factor are demonstrated by future law enforcement officers in the fourth year of training. The peak of the minimum mean values is characteristic of the first year of professional training. Notably, a significant increase in the mean values of the factor of "*emotional competence*" occurs from the first to the second courses as well as from the third to the fourth courses of future police officers' training. A moderate increase can be observed during the period from the second to the third year. This suggests that future police officers' educational and professional training affects the development of the emotional component of their professional self-awareness.

The factor of "*educational and professional motivation*" – the highest mean values of the degree of this factor are demonstrated by future law enforcement officers in the fourth year of educational and professional training. The peak of the minimum mean values of the degree of this factor is characteristic of the first year of professional training. A significant increase is observed in quantitative indicators (mean values) of the degree of the factor of "*educational and professional motivation*" of the subjects during the period from the second to the third year of study. A moderate increase in the quantitative indicators of the degree of this can also be observed factor in the period from the first to the second courses and from the third to the fourth courses of the training. This suggests that the future police officers' professional training affects the development of the motivational component of their professional self-awareness.

Factor of "*volitional self-control*" – data presented in the graph shows that the highest mean values of the degree of this factor are demonstrated future law enforcement officers in the fourth year of training. The peak of the minimum mean values of this factor is characteristic of the first year of professional training. A very pronounced (significant) increase is observed in quantitative indicators (mean values) of the severity of the factor of "*volitional self-control*" of the subjects during the period from the second to the fourth year of educational and professional training. A slight increase

in the quantitative indicators of the degree of this factor can also be observed in the period from the first to the second year of their training. Considering this, it can be argued that future police officers' professional training affects the development of the volitional component of their professional self-awareness.

Factor of "*value development*" - data presented in the graph shows that the highest mean values of the degree of this factor are demonstrated by future law enforcement professionals in the fourth year of training. The peak of the minimum average values of this factor is characteristic of the first year of professional training. We observe in future police officers a rather pronounced monotonous increase in the quantitative indicators (average values) of the expression of the factor of "*value development*" during the period from the second to the fourth year of training. We also observe a moderate increase in the quantitative indicators of the degree of this factor in the period from the first to the second year of their training.

For the factor of "*personal development*" the graph of mean values shows that the lack of influence of the training process on the level of expression of its quantitative indicators in the subjects is confirmed by the graphical configuration of changes in mean values of its expression, which has the form of a broken curve. The only thing that deserves attention in this case is the localisation of the peaks of the minimum and maximum mean values of the degree of this factor, which are characteristic of the first and fourth courses of future police officers' professional training. This suggests that the level of expression of quantitative indicators (mean values) of the factor of "*personal development*" is higher in the fourth year of future law enforcement officers' professional training than in the first year.

Summarising the results of this stage of statistical analysis, it can be argued that the significant (reliable) impact of the training process on the level of development of content and structural components of future law enforcement officers' professional self-awareness was confirmed only in three out of five components, which are motivational, volitional, and emotional. Meanwhile, the most significant impact of the process of educational and professional training is confirmed in relation to the motivational component (factor of "*educational and professional motivation*"), less significant – in relation to the volitional component (factor of "*volitional self-control*"), and even less vivid, but statistically significant – in relation to the emotional component (factor of "*emotional competence*") This suggests that these content and structural components (integrated factors) of future law enforcement officers as factors in the establishment of their professional identity.

The data presented in Table 2 enables the analysis of the content characteristics of each of the five types of future law enforcement specialists selected by the cluster analysis procedure depending on the nature and degree of development of the main content and structural components of their professional self-awareness.

Table 2. Cluster Structure of Mean Values of Integral Factors of Future Police Officers

Integrated factors	Clusters				
	1	2	3	4	5
Emotional competence	-1.4323	0.2790	1.3697	0.4196	-0.1441
Educational and professional motivation	-0.2193	0.5423	1.5853	0.0517	-1.3352
Volitional self-control	-1.2844	-0.2394	0.4069	1.2168	0.1405
Value development	0.5457	-0.3046	0.3756	0.1223	-1.0678
Personal development	0.2051	1.7110	0.0282	-0.4620	0.3121

The first cluster of 26 subjects is characterised by low indicators (mean values) of the expression of factors of "*emotional competence*" (-1.4323) and "*volitional self-control*" (-1.2844). In fact, this type of studied subjects is characterised by a low level of development of emotional and volitional control. This is signified by the low development of the ability to control the emotional sphere and understand the relationships that are represented in emotions as well as the arbitrary control and regulation of one's behaviour and life. In this case, the suboptimal level of ratio (low rates of development) of emotional and volitional components of professional self-awareness, which is characteristic of this type of subjects, provides basis for including its representatives in the group that will participate in approbation of special psychological technic (psychological training programme) that optimises the development of content and structural components of future law enforcement specialists' professional self-awareness.

The basis of the second cluster consisted of 45 subjects with high rates of the factor of "*personal development*" (1.7110). The analysis included subjects with a predominance of a vivid pragmatic, rational and independent personal position over emotional, sensory, and dependent one. The representatives of this type have not demonstrated low rates

of development (suboptimal ratio) of the main content-structural components of professional self-awareness. Thus, they will not be included as potential participants in the group of subjects who will participate in approbation of a special psychological training programme (technique) that optimises the development of components of future police officers' professional self-awareness.

The third cluster included 19 subjects with high indicators (mean values) of the degree of factors of "*educational and professional motivation*" (1.5853) and "*emotional competence*" (1.3697). The cluster analysis included subjects with a significant set of educational and professionally oriented motivations as well as a high level of development of emotional intelligence. The representatives of this type did not show low rates of development (suboptimal ratio) of the main content-structural components of professional self-awareness. Thus, they will not be included as potential participants in the group of subjects who will participate in approbation of a special psychological training programme (technique) that optimises the components of future police officers' professional self-awareness.

The basis of the fourth cluster consisted of 32 subjects with high rates of "*voluntary self-control*" (1.2168). The cluster analysis included future law enforcement specialists with the ability to arbitrarily control and regulate their behaviour and activities. The representatives of this type did not show low rates of development (suboptimal ratio) of the main content-structural components of professional self-awareness. Thus, they will not be included as potential participants in the group of subjects who will participate in approbation of a special psychological training programme (technique) that optimises components of future police officers' professional self-awareness.

Table 3. Differences in the Mean Values of the Degree of the Psychological Characteristics of Future Police Experimental and Control Samples at the Stage of Introductory Diagnostic Control

Psychological characteristics	The mean values of the degree of the psychological characteristics				p
	Control sample		Experimental sample		
	M_x	σ_x	M_x	σ_x	
integrative level of emotional intelligence	26.75	4.09	26.60	4.12	0.957
empathy	4.35	1.42	4.45	1.76	0.945
recognition of other people's emotions	4.70	1.13	4.65	1.42	0.823
emotional awareness	5.80	1.61	5.45	1.57	0.526
self-motivation	5.45	1.23	5.05	1.19	0.488
control of emotions	4.95	1.47	5.10	1.37	0.659
general scale of volitional self-control	10.85	1.66	10.70	1.84	0.813
self-control	5.80	1.20	5.90	0.85	0.735
persistence	7.30	1.17	7.55	1.57	0.791
self-efficacy	24.40	2.09	24.70	2.62	0.671
educational and cognitive motives	16.80	1.82	16.45	1.50	0.515
professional motives	19.70	1.92	19.45	1.67	0.707
social motives	13.65	2.06	13.85	2.03	0.662
communicative motives	10.85	1.18	10.95	1.32	0.802
achievement	2.82	0.41	2.85	0.46	0.754
self-reliance	2.94	0.40	2.89	0.42	0.723
stimulation	2.46	0.30	2.42	0.38	0.835
security	2.65	0.21	2.61	0.17	0.669
traditions	1.70	0.25	1.67	0.29	0.763

The fifth and the last cluster consisted of 14 subjects with low indicators (mean values) of the factors of "*educational and professional motivation*" (-1.3352) and "*value development*" (-1.0678). The analysis included subjects with a low level of expression of educational and professionally oriented motivational guidelines as well as with a low degree of development of the value system of social and personal achievements. In this case, the suboptimal level of ratio (low development rates) of motivational and value components of professional self-awareness, which is characteristic of this type of subjects, provides basis for including its representatives as participants in approbation of a special

programme (psychological training technic) that optimises the development of content-structural components of future law enforcement specialists' professional self-awareness.

Thus, to summarise the results of this stage of the study, due to grouping (clustering) individual factor assessments of the subjects, the empirical typology of future law enforcement officers was determined considering the nature and degree of development of the main content-structural components of their professional self-awareness. The cluster analysis revealed the types of future police officers with the optimal (high level of development) and suboptimal (low level of development) level of the ratio of their professional self-awareness components. Presumably, it would be relevant to develop and test a special psychological training programme (technique) that optimises their development for those types of future law enforcement officers who have demonstrated a low level of development of content and structural components of professional self-awareness (type of subjects with low expression of factors of "*emotional competence*" and "*volitional self-control*" and type of subjects with low expression of factors "*educational and professional motivation*" and "*value development*").

Analysis of the nature of differences in the mean values of the psychological characteristics of the tested experimental and control samples at the introductory stage of diagnostic control confirmed the null hypothesis for all comparable variables (psychological characteristics) ($p > 0.05$) (Table 3).

Considering the data of Table 3, it can be argued that the differences in the mean values of the degree of the psychological characteristics of the studied experimental and control samples are random or inaccurate. This provides a basis for conclusion that at the stage of introductory diagnostic control the experimental and control samples of future police officers were equitable in terms of the level of expression of all compared variables (psychological characteristics). Thus, it is possible to conduct the analysis of the testing results (effectiveness testing) of a special psychological training programme (technique) to optimise the development of content and structural components of future police officers' professional self-awareness. For this purpose, a comparative analysis of the mean values of the degree of the psychological characteristics was done. The characteristics were studied based on the results of the introductory and control stages of diagnostic control separately in the experimental and control samples. Firstly, the study analyses the nature of the differences in the mean values of the degree of the psychological characteristics among future law enforcement specialists of the control sample based on the results of the implementation of formative measures (Table 4).

Considering the data in Table 4, it was possible to identify a statistically significant nature of their differences by the results of the introductory and control stages of diagnostic control only in regards to a small number of psychological characteristics of future law enforcement specialists of the control sample. Thus, at the control stage of diagnostic control the reliable nature of the growth of quantitative indicators (mean values) of degree was confirmed in relation to such psychological characteristics of the subjects as "*educational and cognitive motives*" ($p \leq 0.05$). This indicates that the implementation of formative measures in the subjects of the control sample results in intensified interest in learning new things, the learning process itself and research activities; the need for expanding knowledge, acquiring competencies, developing the ability to operate with facts. It can be argued that during this period of professional training related primarily to participation in the implementation of formative activities future police officers are developing their cognitive motivation significantly, which supposes focusing on acquiring new knowledge and learning new ways to acquire it.

In addition, the results of the implementation of formative measures confirmed the statistically significant nature of the growth of quantitative indicators (mean values) of the degree of such psychological characteristics of the subjects as "*persistence*" ($p \leq 0.05$). This suggests that during this period of professional training associated with participation in the implementation of formative measures the future police officers of control sample form such personal and social qualities as ability to work, proactivity, respect for social norms and adherence to them. Another variable, in relation to which the statistically significant nature of the growth of quantitative indicators (mean values) of degree at the control stage of diagnostic control was confirmed, is "*communicative motives*" ($p \leq 0.05$). This may indicate that the implementation of formative measures among the subjects of the control sample resulted in updated personal guidance to meet the needs of communication, communication, cooperation and interaction. It can be argued that during this period of professional training associated primarily with participation in the implementation of formative activities future police officers are noticeably developing communicative competence, which means the ability to establish and maintain the necessary contacts with others; development of a system of knowledge and skills that involve the ability to change the depth and scope of communication to ensure its effectiveness.

Table 4. Differences in the Mean Values of the Degree of the Psychological Characteristics of Future Police Officers of the Control Sample Based on the Results of the Implementation of Formative Measures

Psychological characteristics	Stage of diagnostic control				p
	Introductory		Control		
	M _x	σ _x	M _x	σ _x	
integrative level of emotional intelligence	26.75	4.09	26.95	4.24	0.592
empathy	4.35	1.42	4.40	1.23	0.868
recognition of other people's emotions	4.70	1.13	4.85	1.18	0.553
emotional awareness	5.80	1.61	5.85	1.60	0.819
self-motivation	5.45	1.23	5.85	1.27	0.110
control of emotions	4.95	1.47	5.05	1.28	0.617
general scale of volitional self-control	10.85	1.66	11.05	1.47	0.419
self-control	5.80	1.20	5.70	0.98	0.637
persistence	7.30	1.17	7.95	1.40	0.017
self-efficacy	24.40	2.09	24.65	1.46	0.290
educational and cognitive motives	16.80	1.82	17.50	1.73	0.015
professional motives	19.70	1.92	20.15	1.79	0.049
social motives	13.65	2.06	13.85	1.84	0.356
communicative motives	10.85	1.18	11.40	1.23	0.027
achievement	2.82	0.41	2.78	0.40	0.115
self-reliance	2.94	0.40	2.98	0.44	0.168
stimulation	2.46	0.30	2.45	0.31	0.819
security	2.65	0.21	2.67	0.20	0.394
traditions	1.70	0.25	1.71	0.28	0.527

The last characteristic is "*professional motives*" ($p \leq 0.05$) among psychological characteristics of future police officers, who demonstrated a significant (verifiable) increase in quantitative indicators (mean values) of degree. This indicates that the implementation of formative measures in the control sample result in a personal focus on obtaining a specific profession, to satisfy the desire to become a qualified specialist, to fulfil the intention to develop and grow professionally in one's career. In other words, the future law enforcement specialists of the control group are updating their professionally determined motivational position. Let's analyse the differences in the mean values of the degree of the psychological characteristics of future law enforcement specialists of the experimental sample based on the results of the introductory and control stages of diagnostic control (Table 5).

Considering the data in Table 5, the nature of the differences in the mean values of the degree of psychological characteristics of the experimental sample of future police officers is fundamentally different from the control sample. Thus, the results of the final stage (control) of diagnostic control in the experimental sample identified a statistically significant nature of the growth of quantitative indicators (mean values) of the degree of all psychological characteristics.

In particular, the highest level of statistically significant ($p \leq 0.001$) growth of quantitative indicators of degree as a result of the implementation of formative measures was confirmed in relation to such psychological characteristics of future law enforcement officers as "*emotional awareness*" (reflects the ability to realise and understand their emotions, their inner emotional state as well as willingness to constantly replenish their emotional "vocabulary"), "*persistence*" (reflects the strength of intentions, the desire to complete the task; a highly developed such personal and social qualities as working ability, proactivity; respect for social norms and adherence to them), "*educational and cognitive motives*" (reflects personal interest in acquiring new knowledge, the process of learning and research; the need to expand knowledge, acquire competencies, develop the ability to operate with facts), "*professional motives*" (reflects personal focus on obtaining a specific profession, to satisfy the desire to become a qualified specialist, to fulfil the intention to develop and grow professionally in one's career), "*communicative motives*" (reflects a personal focus on meeting the needs of communication, communication, cooperation and interaction; characterised by a set of knowledge and skills that include the ability to change the depth and scope of communication, to ensure its effectiveness), "*security*"

(reflects the focus on social order, national security, family security, mutual assistance, the prevalence of security values for others and oneself, harmony, stability of society and its internal relationships), *"traditions"* (reflects the focus on reproducing the experience of the group, which is fixed in traditions and customs; manifested not only in cultivating values of respect acceptance and following cultural customs and beliefs but in identification with traditions, customs (norms) and beliefs of their profession and socio-professional group), *"recognition of other people's emotions"* (reflects the ability to recognise other people's emotions and the ability to influence their emotional state), *"self-motivation"* (reflects the ability to find in itself a source and motivational resources for optimal functioning and life reality), *"general scale of volitional self-control"* (reflects the stability of intentions, emotional maturity, proactivity, independence, realistic views, self-reliance, self-confidence, a developed sense of duty, a prominent socio-positive orientation), *"self-efficacy"* (reflects the subjective confidence or faith in one's potential abilities to organise and implement their activities necessary to achieve a certain goal), *"achievement"* (reflects the expressed need for social approval, respect; manifested by a high level of competence of the individual in direct interpersonal interaction).

Table 5. Differences in the Mean Values of the Degree of the Psychological Characteristics of Future Police Officers in the Experimental Sample Based on the Results of the Implementation of Formative Measures

Psychological characteristics	Stage of diagnostic control				p
	Introductory		Control		
	M _x	σ _x	M _x	σ _x	
integrative level of emotional intelligence	26.60	4.12	27.35	4.13	0.010
empathy	4.45	1.76	5.15	1.81	0.006
recognition of other people's emotions	4.65	1.42	5.25	1.33	0.001
emotional awareness	5.45	1.57	6.30	1.49	0.000
self-motivation	5.05	1.19	5.90	1.12	0.001
control of emotions	5.10	1.37	5.75	0.97	0.003
general scale of volitional self-control	10.70	1.84	11.65	1.93	0.001
self-control	5.90	0.85	6.65	0.99	0.002
persistence	7.55	1.57	8.55	1.47	0.000
self-efficacy	24.70	2.62	26.15	2.70	0.001
educational and cognitive motives	16.45	1.50	18.10	1.74	0.000
professional motives	19.45	1.67	20.90	1.33	0.000
social motives	13.85	2.03	14.65	2.11	0.004
communicative motives	10.95	1.32	12.15	1.46	0.000
achievement	2.85	0.46	3.02	0.50	0.001
self-reliance	2.89	0.42	3.03	0.42	0.002
stimulation	2.42	0.38	2.53	0.36	0.009
security	2.61	0.17	2.76	0.12	0.000
traditions	1.67	0.29	1.81	0.32	0.000

In addition, the results of the implementation of formative measures confirmed a significant but below the level of statistical significance ($p \leq 0.01$) increase in quantitative indicators of the degree of such future law enforcement officers' psychological characteristics as *"integrative level of emotional intelligence"* (reflects a comprehensive ability to manage their emotions, recognise emotions of other people, as well as high emotional awareness and expressed self-motivation), *"self-control"* (reflects the ability to arbitrarily control emotional reactions and states, high emotional stability, self-confidence, self-control, composure), *"self-reliance"* (reflects the focus on self-control and self-management, acts as a derivative of the interactional needs for autonomy and independence and is characterised by independent thinking and choice to act in a specific way within creative work and research (Shurygin et al., 2021)), *"control of emotions"* (reflects the ability to arbitrarily control their emotions, emotional flexibility), *"social motives"* (reflects the established personal position on understanding the importance of vocational education and training, willingness to give up personal interests for public ones, active involvement in various socially useful activities),

"*empathy*" (reflects the ability to understand the emotions of others, the ability to empathise with another human as well as willingness to provide support), "*stimulation*" (reflects the focus on providing and maintaining the optimal level of activity through a permanent change of impressions and stimulating environment, the desire for novelty and deep experiences).

To sum up the results of the analysis of the effectiveness of the implementation of formative measures for the tested experimental and control samples, it can be stated that in comparison with conventional technique of psychological work with students the introduction of a special authorial psychological training programme provides more favourable conditions for the development of content structures of their professional self-awareness.

4. Conclusions

To sum up the empirical study, the authors of the study note that the results of factor analysis provided the opportunity to verify the factor model of content-structural components of future police officers' professional self-awareness during their training at the university that were obtained by psychological diagnostic measurement. The structure of the model was determined by independent integral factors: "emotional competence" (emotional component); "educational and professional motivation" ("motivational" component); "volitional self-control" (volitional component); "value development" (value component); "personal development" (personal component). The dynamics of development (evolution) of certain characteristics of future police officers' professional self-awareness during their professional training has its specific patterns. This allows considering the future law enforcement officers' professional self-awareness as a dynamic systemic formation, which is characterised by a special logic of formation of its content and structural components.

The authorial psychological training programme implemented in the educational process has confirmed its high efficiency. This enables its further use as an effective developmental psychological technic, which will provide systematic and purposeful development of the main content-structural components of future police officers' professional self-awareness.

References

- Abisheva, K. M., Nagimzhanova, K. M., Aykenova, R. A., Kapanova, A. K., Koldasbayeva, Z. S., & Kanapyanova, A. D. (2019). Cross-cultural competence of communicators as a way to create a positive eco-informational environment. *Space and Culture, India*, 7(2), 76-88.
- Afful, I. (2018). The impact of values, bias, culture and leadership on BME under-representation in the police service. *International Journal of Emergency Services*, 7(1), 32-59. <https://doi.org/10.1108/IJES-05-2017-0028>
- Ambarova, P. A., & Zborovsky, G. E. (2019). Vocational education for people of the third age. *Obrazovanie i Nauka*, 21(10), 59-88.
- Atkins, C. A. V. (2018). *Perceptions of professional identity and interprofessional working in children's services: thesis submitted for the degree of Doctor of Philosophy*. London: Kingston University.
- Badmaev, B. C. (1999). *Methods of teaching psychology*. Moscow: VLADOS.
- Drew, S. K., & Hulvey, M. (2007). Cops, crimes, and community policing. In: *Dirty work: The social construction of taint* (pp. 169-193). Waco: Baylor University Press.
- Emelyanova, I. N., Teplyakova, O. A., & Efimova, G. Z. (2019). Modern evaluation methods at various stages of education. *Obrazovanie i Nauka*, 21(6), 9-28.
- Grubb, A. R., Brown, S. J., Hall, P., & Bowen, E. (2019). "There's nothing that compares to it": A grounded theoretical analysis of the experiences of police hostage and crisis negotiators. *International Journal of Conflict Management*, 30(3), 369-394. <https://doi.org/10.1108/IJCMA-01-2019-0003>
- Gubina, L. V., Alekseeva, T. V., & Strakhov, O. A. (2020). Analysis of some factors influencing the performance of college students: An example of computer science education. *Obrazovanie i Nauka*, 22(2), 171-196.
- Hickman, M. J., Powell, Z. A., Piquero, A. R., & Greene, J. (2016). Exploring the viability of an attitudes toward ethical behavior scale in understanding police integrity outcomes. *Policing an International Journal of Police Strategies and Management*, 39(2), 319-337. <https://doi.org/10.1108/PIJPSM-11-2015-0130>

- Hietanen, J. O., Syrjämäki, A. H., Zilliacus, P. K., & Hietanen, J. K. (2018). Eye contact reduces lying. *Consciousness and Cognition*, 66, 65-73. <https://doi.org/10.1016/j.concog.2018.10.006>
- Kovalisko, N. (2006). Social identity as a factor of social stratification. *Social Psychology*, 4, 94-106.
- Meier, A. M., Arentsen, T. J., Pannell, L., & Putman, K. M. (2018). Attrition of police officers as predicted by peer evaluations during academy training. *Policing and Society*, 28(1), 17-26. <https://doi.org/10.1080/10439463.2015.1128904>
- Peacock, R., Kutnjak Ivković, S., Cajner Mraović, I., & Prpić, M. (2020). Shades of blue: Exploring the code of silence in Croatia and Serbia. *International Journal of Comparative and Applied Criminal Justice*. <https://doi.org/10.1080/01924036.2020.1824872>
- Rean, A. A., Yakunin, V. A., & Badmaeva, N. Ts. (2004). *Methodology for the diagnosis of educational motivation of students: Influence of the motivational factor on the development of mental abilities*. Ulan-Ude: Buryatskoye knizhnoye izdatelstvo.
- Robinson, J., Schram, B., Canetti, E., & Orr, R. (2019). Do barrier test results predict survival in specialist police tactical selection courses? *International Journal of Environmental Research and Public Health*, 16(18), article number 3319. <https://doi.org/10.3390/ijerph16183319>
- Salling Olesen, H. (2001). Professional identity as learning processes in life histories. *Journal of Workplace Learning*, 13(7-8), 290-298. <https://doi.org/10.1108/13665620110411076>
- Schaible, L. M. (2018). The impact of the police professional identity on burnout. *Policing an International Journal of Police Strategies and Management*, 41(1), 129-143. <https://doi.org/10.1108/PIJPSM-03-2016-0047>
- Schram, B., Robinson, J., & Orr, R. (2020). The physical fitness effects of a week-long specialist tactical police selection course. *International Journal of Environmental Research and Public Health*, 17(18), article number 6782. <https://doi.org/10.3390/ijerph17186782>
- Segrave, M., Wilson, D., & Fitz-Gibbon, K. (2018). Policing intimate partner violence in Victoria (Australia): Examining police attitudes and the potential of specialisation. *Australian and New Zealand Journal of Criminology*, 51(1), 99-116. <https://doi.org/10.3390/ijerph17186782>
- Shurygin, V., Saenko, N., Zekiy, A., Klochko, E., & Kulapov, M. (2021). Learning management systems in academic and corporate distance education. *International Journal of Emerging Technologies in Learning*, 16(11), 121-139.
- Tamanaha, B. Z. (2016). The politics of the politics of jurisprudence. *St. Louis Legal Studies Research Paper*, 14(10-03), 45-49.
- Tao, H., & Wang, Y. (2019). Research on the development needs and design practice of contemporary police uniforms. In: *Textile Bioengineering and Informatics Symposium Proceedings 2019 – 12th Textile Bioengineering and Informatics Symposium, TBIS 2019* (pp. 380-386). Hong Kong: Textile Bioengineering and Informatics Society.
- Tokatligil, Y. S., Saliyeva, A. Z., & Zhumabekova, F. N. (2021). Psychological aspect of the training process of preschool education students. *Quality and Quantity*, 1(1), 1-12.
- Trede, F., Macklin, R., & Bridges, D. (2012). Professional identity development: A review of the higher education literature. *Studies in Higher Education*, 37(3), 365-384. <https://doi.org/10.1080/03075079.2010.521237>
- Tsvetkova, M., Saenko, N., Levina, V., Kondratenko, L., & Khimmataliev, D. (2021). Organizing students' independent work at universities for professional competencies formation and personality development. *International Journal of Instruction*, 14(4), 503-528.
- Yang, H., Wang, R., & Chen, H. (2020). Professional identity construction among social work agencies. *Journal of Social Work*, 12, 220-230. <https://doi.org/10.1177/1468017320940587>

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