Factor Structure of Basic Personality Characteristics of Police Patrol Officer

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ABSTRACT

Research article is devoted to the study of a number of basic personality characteristics of a patrol police officer and the procedure of factor analysis of the obtained results. Specific conditions of the service of a patrol police officer cause personal changes that may cause certain difficulties in becoming a professional and negatively affect the formation of the functional system of his/her body, change the characteristics and behavioral responses and as a result cause reduced efficiency, effectiveness and quality of tasks. These aspects must be taken into account when studying the individual psychological characteristics of patrol police officers and the subsequent organization of the process of psychological support of personnel. The main attention is drawn to the analysis, comparison, systematization and generalization of the data received by results of psychodiagnostic studying of individual-typological features of police officers of the corresponding specialization. Conduction of a factor analysis of the results of the empirical study contributed to the verification of the factor structure of the basic characteristics of the personality of the patrol police officer and the reduction of the measured indicators into a four-factor model. The practical significance of the study is caused by the need to optimize the stage of an interpretation of the results of the study of the identity of the patrol police officer and will improve the process of psychological support of the staff of the unit as a whole.

Keywords: *patrol police officer, personality, individual-typological features, factor analysis procedure, four-factor model.*

1. INTRODUCTION

The specifics of professional activity of the employees of the National Police of Ukraine is the need to perform official and professional duties in conditions complicated by emotional and physical stressors related to the aggravation, local hostilities, natural disasters and catastrophes, as well as of tension socio-economic relations, mass events that threaten group violations of public order. In this situation, police officers are subject to much higher requirements not only in terms of training, but also in their personal qualities, emotional and volitional resilience, behavior, and response to extreme conditions, physical and mental health.

Patrol police units are one of the main structural components of the National Police of Ukraine. They are expected to significantly improve and increase an efficiency. According to the vast majority of experts, the main components of improving the efficiency of activities and achieving more significant results in the fight against crime and protection of constitutional rights and freedoms of citizens are: high-quality professional and psychological selection of staff (high level of professional suitability for duty) and raising the professional training and awareness of police officers. An important component of high-quality staffing of patrol police units with qualified personnel is the selection of personnel and their subsequent psychological support based on an objective assessment of the availability of the necessary competencies. Therefore, the solution of the problem of optimizing the procedure of interpretation of the results of the diagnostic study of individual-typological features of the personality of the patrol police officer acquires special significance.

2. LITERATURE REVIEW

Analysis of research and publications has shown that in recent years, numerous scientific papers are devoted to the study of individual individual-typological personality traits that are manifested in the process of professional activity. Such activity of researchers is due to the fact that from a practical point of view it is easier to organize the

study of individual features or levels of personality organization than to study the whole personality. Therefore, most of diagnostic and formative techniques are focused on individual features or their complexes (cognitive, emotional, volitional, communicative, etc.), important for specific types of professional activities and requests for practice [1-3].

Despite the significant number of scientific papers devoted to the study of individual-typological features of personality, there are no works, in which the problem of optimization of the interpretation procedure based on the results of diagnostic study of the main personal characteristics of the police officer has been investigated.

The research of professional activity of law enforcement officers is devoted to the studies of V.G. Androsiuk, M.I. Anufriiev, O.M. Bandurka, V.I. Barko, S.P. Beznosov, V.L. Vasiliiev, I.V. Vashchenko, L.Y. Humeniuk, Ya.M. Kohut, V.O. Kryvolapchuk, V.S. Medvediev, S.I. Yakovenko and others [4-6]. Analysis of scientific works by V.L. Vasiliiev, A.V. Dulov, V.E. Konovalova, A.R. Ratinov, A.M. Stolyarenko confirmed the fact that law enforcement activities are characterized by specific psychological features [5-6].

Detailed research by domestic and foreign authors shows that specific features of police officers cause to certain personal changes that specify difficulties in becoming a professional and negatively affect the formation of the functional system of the body, its values and views [7-11].

Thus, the purpose of our paper is focused on the establishment of the factor structure of individual-typological personality traits and further verification of the basic personality characteristics of a patrol police officer by systematization and further optimization of the number of measured indicators.

3. METHODOLOGY

In order to study the basic individual psychological characteristics of the patrol police of the National Police of Ukraine, an empirical study has been conducted. During the formation of the sample, we adhered to the sample to its content and equivalence. In total, the sample consisted of 259 patrol police officers aged 21 to 36, who were grouped as "successful" for the service based on the results of professional and psychological selection by the method of tapping test (determination of the properties of the nervous system by psychomotor parameters).

Psychodiagnostic testing of selected police officers was conducted in the morning using the blank method in groups of 8–15 people in accordance with text instructions. In the course of the study, the ethical rules of psychological research stated in the Code of Ethics of Psychologists, approved by the First Constituent Congress of the Society of Psychologists of Ukraine of

December 20, 1990, and the principles of psychological support (legality, humanism, tolerance, voluntariness, confidentiality, science, efficiency, complexity and systematization), established by the Order of the Ministry of Internal Affairs of Ukraine of February 6, 2019 No 88. Informed consent was obtained from all subjects of the empirical study.

The experiment was carried out in stages. The first stage of the study included a theoretical analysis of the scientific literature in order to determine the leading personality characteristics of the patrol police officer. In the second stage, «successful» employees were selected and an empirical study of individual characteristics and accentuations of character through the use of psychodiagnostic tools was carried out. The third stage involved summarizing and analyzing the results of the experiment and summarizing of the results.

To achieve this goal, a set of complementary scientific methods of research is used: analysis, systematization, relationship and interdependence, comparison, psychodiagnostic methods and methods of mathematical statistics.

A number of standardized psychodiagnostic methods were used as the main tool for the determination of the factor structure of the basic personality characteristics of a patrol police officer. The applied methods are aimed at in-depth and comprehensive study of the personal qualities of a patrol police officer, establishing their impact on the future career prospects and integrating research results into a single scientific vision of the number of professional problems of the employee.

To determine the basic characterological features of patrol police officers who participated in the study, the method of individual-typological questionnaire by L. Sobchyk (ITO) was used [12]. The methodology is based on the theory of leading tendencies by L. Sobchyk [13]. Theoretical basis of the questionnaire is based on the study of innate properties of the psyche, which are gradually transformed into certain character traits, and then – into individual personality traits. Personality is a harmonious system in the unity of a multidimensional, structured, dynamic whole. Normative indicators are characterized by a balance of multidirectional personality traits, and the variability of bipolar traits indicates emotional tension and the presence of internal conflict. Knowledge of leading personality tendencies helps to predict the behavior of a patrol police officer in extreme professional situations and helps to develop effective preventive measures to save the life and health of the employee and the effective performance of his/her professional duties.

In the course of the research, employees were asked to answer 91 statements that related to certain individual qualities and that were at least subject to social evaluation judgments. According to the key, 8 basic typological

scales were calculated and interpreted: extraversion, introversion, spontaneity, aggression, lability, rigidity, sensitivity and anxiety. According to the results of the study, the patrol police did not have the attitude to socially desirable answers (lie scale – 2.79 points) and their desire to strengthen and demonstrate their own problems (aggravation – 0.71).

The study of the «palette» of accentuations of the personality of the employee was carried out by use of the questionnaire Leonhard-Schmishek (option for adults, adapted by W. Bleicher) [14]. The method is based on the concept of K. Leonhard, where the expression of basic personality traits acquires the character of accentuation, which generally determines its individual identity. Accentuations of character have both positive and negative aspects, and under the influence of adverse factors - can lead to a disorder of the personality structure of the patrol police officer.

The subjects were asked 88 questions, to which they must answer «yes» or «no». Then, on each scale of the questionnaire, the sum was calculated and multiplied by a certain number by key. Interpretation was carried out in accordance with the dominant positions of a particular accentuation of character and was compared with the peculiarities of adaptation and behavior of the employee under the influence of occupational stressors.

Statistical processing of the obtained empirical data was performed using a standardized software package IBM SPSS Statistics 23.0.

4. RESULTS

A factor analysis [15-17] procedure was used to perform a qualitative analysis of the research results and to identify the relationships between the values of the indicators. The application of factorization by the principal components method with varimax rotation contributed to the compact visualization of the obtained data and to the isolation and interpretation of the factor structure of the basic personality characteristics of the patrol police officer. The feasibility of using factor analysis was checked according to the Kaiser-Meyer-Olkin sample adequacy criterion (KMO ≥ 0.5) and the Bartlett sphericity criterion (VT ≤ 0.05). The degree of Kaiser-Meyer-Olkin sample adequacy is 0.746, at the significance level of 0.0001, which explains 51.71% of the total variance and indicates the possibility of using factor analysis in the study group and the feasibility of using a given type of procedure for selected indicators.

In the process of factor analysis of indicators, a four-factor model was identified, which is confirmed by the results of the application of stone scattering («stone embankment criterion») by R. Cattell and illustrates their greatest balance (Figure 1). Taking into account H. Kaiser's criterion, we considered only those factors whose eigenvalues were greater than one and contributed to the qualitative analysis of the mathematical model.
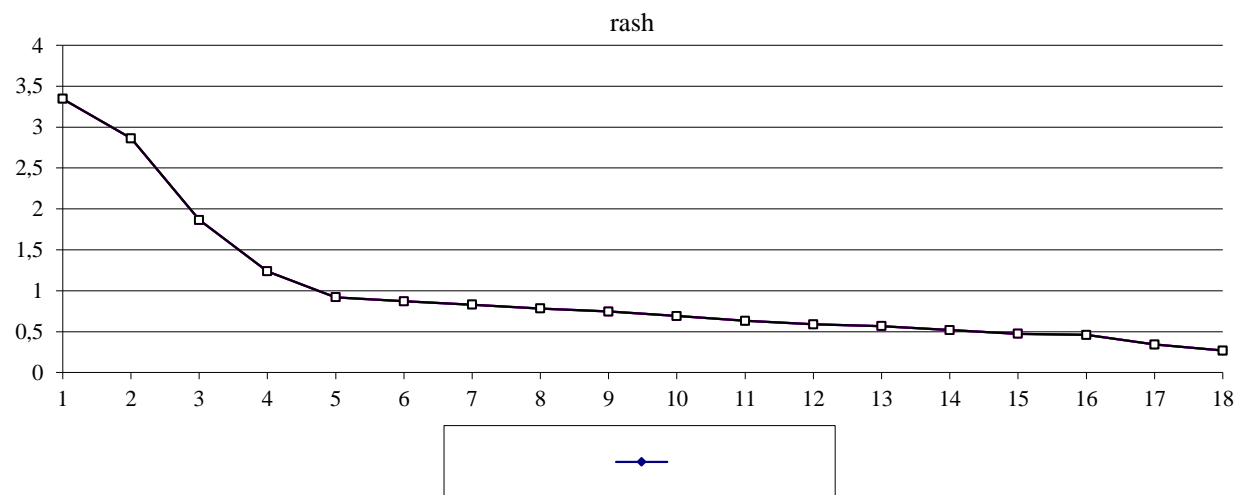

Figure 1 Graphic representation of eigenvalues ("stone mound")

According to the results of the procedure, the obtained matrix of factor loads after varimax-rotation is quite structured, and the selected significant factors illustrate the corresponding high indicators of factor load factors (Table 1).

We will analyze the factor model in more detail and perform the interpretation in a certain sequence from the first factor F1 to the fourth F4 (Table 2). It should be noted, that in the process of analysis, the signs of factor loads of each indicator are taken into account. The presence of a load with opposite signs in the same factor indicates an inversely proportional relationship between variables.

Table 1. The total variance for the four isolated factors is fully explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,345	18,581	18,581	3,345	18,581	18,581	2,865	15,919	15,919
2	2,863	15,904	34,484	2,863	15,904	34,484	2,508	13,931	29,850
3	1,865	10,359	44,843	1,865	10,359	44,843	2,068	11,487	41,337
4	1,236	6,865	51,709	1,236	6,865	51,709	1,867	10,372	51,709

Table 2. Matrix of factor loads of basic personality characteristics of a patrol police officer after rotation (Varimax method with normalization according to H. Kaiser)

Indexes	Component			
	1	2	3	4
Extraversion	,779			
Introversion	-,720			
Hyperthymic	,659			
Dysthymia	-,648			
Demonstrativeness	,588			
Exaltation		,682		
Excitability		,677		
Cyclothymic		,664		
Anxiety		,568		
Pedantry		,477		
Anxiety (character accentuation)		,420		
Rigidity			,714	
Aggressiveness			,673	
Spontaneity			,608	
Stuck			,597	
Sensitivity				,793
Lability				,571
Emotionality				,443

The first factor F1, conditionally called «extraversion–introversion» is bipolar and is determined by indicators: «extraversion» (0.779), «introversion» (-0.720), «hyperthymic» (0, 659), «dysthymia» (-0.648), «demonstrativeness» (0.588).

The isolated factor, in terms of its content, emphasizes the close relationship between the indicators of extraversion and the hyperthymic and demonstrative personality of the patrol police officer and forms a pronounced positive pole. Such employees are characterized by a person's orientation to the outside

world, energy and optimism in views on life and situations, ease of communication, sociability, inflated self-esteem, desire for leadership. They are characterized by initiative, non-standard thinking, interest and receptivity to any information.

It should be noted that the negative pole is represented by diametrically opposite indicators: introversion and dysthymia, which are manifested by lack of communication, modesty, low self-esteem, depressed mood, some passivity in behavior, individualism and focus on the inner world.

It can be argued that this relationship of indicators demonstrates the importance of individual-typological features of the employee's personality in his/her professional activity and their impact on the effectiveness of performance of official tasks. Thus, these basic indicators indicate the need for quality professional and psychological selection for the service, conduction of psychoprophylactic work with patrol police officers, including introversion and dysthymic accentuation of character and balancing indicators of introversion and extraversion.

The second unipolar factor F2 «neuroticism» contains six components: «exaltation» (0.682), «excitability» (0.677), «cyclothymic» (0.664), «anxiety» (0.568), «pedantry» (0.477), «anxiety as accentuation character» (0.420). This factor shows the relationship between both negative and positive personality traits. According to its content, it indicates the dependence of a number of characteristics on the characteristics of the type of nervous system of police officer and fundamental features of nervous processes: the forces of excitation and inhibition, their balance and mobility.

Orientation to society, friendliness, high sociability, openness, altruism, compassion, meticulousness, high executive discipline, adherence to moral principles, slowness in action, caution, scrupulousness, responsibility, accuracy, propensity for introspection and sensitivity to indicate the capacity of police patrol officers to perform professional tasks effectively. Manifestations of impulsiveness, straightforwardness, irritability, mood swings and communication features, which depend on external factors, require mandatory corrective work with them.

The third factor F3, which we tentatively called «stenoticity» included such indicators as: «rigidity» (0.714), «aggressiveness» (0.673), «spontaneity»

(0.608), «stuck» (0.597). In terms of its content, this factor demonstrates the expression of such characteristics as: stress resistance, activity in life, persistence, self-confidence and self-efficacy, desire for self-affirmation and self-realization, practicality, ability to defend one's point of view and make quick decisions. Some resentment, boredom, propensity to teach others require psycho-preventive work with police officers, who demonstrate these traits.

The fourth unipolar factor F4 «emotional stability» were several components – «sensitivity» (0.793), «lability» (0.571), «emotionality» (0.443). In terms of its content, this factor is expressed by sensitivity to the influences of the social environment, humanity and the tendency to compassion, thrift, empathy, demonstrativeness, a keen sense of duty, diligence. In order to maintain the psychological health of the patrol and the quality of their work, it is advisable to organize psycho-correctional work with people who are characterized by some emotional instability.

5. CONCLUSIONS

Thus, these diagnostic factors generally reflect the content of the studied issues. The factor analysis procedure used in the empirical study helped to verify the factor structure of the basic personality characteristics of the patrol police by reducing the dimensionality of the measured indicators and reducing them to four independent factors: extraversion–introversion, neuroticism, stenotic, emotional stability.

The results of the empirical study allowed us to conclude that the «successful» patrol police officer has such basic characteristics as: energy and optimism, active life position, social orientation, friendliness, altruism and humanity, compassion, sociability, communication skills, manifestations of leadership, ability to defend one's point of view, resilience, self-confidence and self-action, initiative and creativity, speed in decision-making, ability to adhere to moral norms, high executive discipline, responsibility, caution and sensitivity to danger, interest and susceptibility to any information, the desire for self-affirmation and self-realization, etc. The severity of these characteristics contributes to the successful performance of professional duties by police officers, reflects their ability to show resilience, stress in difficult extreme situations, responsibility in solving work tasks, promotes their self-development and self-knowledge, and above all – it protects their health.

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