

The Safety of Professionalization Subjects in Psychological and Neuropsychological Aspects

Olha LAZORKO¹,
Virna ZHANNA²,
Vasyl YAHUPOV³,
Oksana VALCHUK-ORKUSHA⁴,
Iryna MELNYK⁵,
Mykhailo SHERMAN⁶

¹ Lesya Ukrainka Eastern European National University, Ukraine, Lazorko.olga@gmail.com

² Lesya Ukrainka Eastern European National University, Ukraine, annavirna@ukr.net

³ National Defense University of Ukraine named after Ivan Cherniakhovskiy, Ukraine, yagupow1957@gmail.com

⁴ Vinnytsia Mykhailo Kotsiubynskiy State Pedagogical University, Ukraine, valchukorkysha@gmail.com

⁵ Vinnytsia Mykhailo Kotsiubynskiy State Pedagogical University, Ukraine, IraMelnik@i.ua

⁶ Kherson State University, Ukraine, Sherman_m@ukr.net

Abstract: *Recently, the revision of priorities in the interpretation of the security problem and their transformation from the interests of the state to the interests of man himself, have actualized the study of psychological protection. Especially aspects of personal protection are relevant in the professional sphere, which led to the development of the problem of personal protection as a subject of professionalization, taking into account psychological and neuropsychological factors. The purpose of the study is to empirically verify the structurally functional organization of personal protection as a subject of professionalization. The proposed model is based on the methodological principles and conditions of the content of the subject, system and synergetic approaches (the subject principle determines the subjective features expressed in subjective-personal characteristics, the system principle - substantial features expressed in socially personal characteristics; the synergetic principle - quality features that are integrative sign of professional protection of the individual. The sample of the study was: graduating students (n = 180); 4th and 5th year students (n = 230); doctors and medical workers (n = 441). The characteristics of psychodiagnostic tools used in these blocks of the empirical research program are described. The results of the study demonstrated the excellent content of empirical referents of professional protection of the individual in the period of professional optation, professional training and actual professional implementation in ordinary and special conditions of activity. The scientific position of the empirical study of professional safety of the individual is realized in the separation of the experience of social satisfaction, the system-forming factor of which is the urgent need that initiates the manifestation of successful professional realization.*

Keywords: *empirical verification; professional optation; professional training; professional realization; social satisfaction; social frustration.*

How to cite: Lazorko, O., Zhanna, V., Yahupov, V., Valchuk-Orkusha, O., Melnyk, I., & Sherman, M. (2021). The Safety of Professionalization Subjects in Psychological and Neuropsychological Aspects. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 12(1), 19-39. <https://doi.org/10.18662/brain/12.1/168>

Introduction

A productive human life, full of real values and principles, determines the trajectory of its development, the vectorization of which is due to the psychological fact of protection, which is an integral part of socio-economic and socio-political processes and a basic factor in quality of life. Recently, the revision of priorities in the interpretation of the protection problem and their transformation from the interests of the state to the interests of man himself, have actualized the study of psychological protection. Acute contradictions associated with the established system of professional development of personality are manifested at all stages, from professional optics, professional training, and ending with the actual professional functioning with all the signs of psychological protection.

In the professional realization of personality changes are particularly intense, because it concentrates the main activity of the subject. Activity as a functional-dynamic system of personality, integrates and regulates in dynamics all its personal structure (needs, abilities, will, consciousness), provides an opportunity to take into account the requirements of society and the manifestation of independence, self-determination as a subject of life. Therefore, a person becomes a real subject of professional realization when he is in a state of protection and safety, while maintaining their needs, values and prospects for self-expression.

This context makes it possible to consider the professional protection of the individual in terms of objective and subjective characteristics of states, which are integrally localized in the subjective sense of social satisfaction as a measure of human comfort both in the inner world and within society. In our opinion, it is the measurement of social satisfaction / frustration that is the determining indicator of professional protection of an individual, which outlines the success of professional realization at each stage of formation.

The neuropsychological parameters of personal security in professional socialization include its subjectivity, emotional stability and ability to make decisions in unusual situations.

In the post-Soviet space where empirical research was conducted, significant achievements of theoretical and empirical research on the study of personality protection within the sphere of professional development are the study of the peculiarities of life and professional development of the individual within the ontogenetic studies of life self-realization (Druzhilov, 2010; Tytarenko, 2007; Frankl, 1990) and professional self-determination of

the individual as a component of the life development of the individual (Bozhovych, 1979; Vasilyuk, 1995; Zlobina, 1996); study of motivational and adaptive content of professional activity (Berezin, 1988; Kokun, 2012; Maklakov, & Sidorova, 2011), development and transformation of the content of professional activity in special conditions (Obzov, 2003; Olefir, 2015; Smirnov, & Dolgopolova, 2007); determination of morphological, psycho-emotional and socio-economic constants of occupational health (Haletska, & Sosnovskiy, 2006; Maysak, 2012). Different aspects of the problem under study are covered in the works of many scholars (Bakhmat et al., 2019; Behas et al., 2019; Bezliudnyi et al., 2019; Gerasymova, et al., 2019; Maksymchuk et al., 2018; Nerubasska, & Maksymchuk, 2020; Petrova, 2017; Melnyk et al., (2019); Sheremet, Leniv, Loboda, & Maksymchuk, 2019).

In recent decades, neurophysiologists have identified the mechanisms of neuropsychological decision-making under uncertain conditions. Subsequently, it has approximated andrology and psychology to neurosciences, such neurophysiology and neuropsychology (Kahneman, & Tversky, 2000).

Modern research shows that social security and professionalization are considered multimodally. One's social security implies, first of all, a sense of personal security and adaptability in the multimodal postmodern society. One of the main neuropsychological characteristics which can be considered socially and professionally adapted is mobility. It is the ability to maintain high productivity, adaptability and creativity without being tied to a specific location, usual comfort, place of work (study). Ivanov, Seryy, & Yanitskiy (2017) theorize that mobility is a psychosocial phenomenon which can be studied both in terms of neuropsychology and social security. It is based on the coherence of life strategy and personal safety. However, such a phenomenon is inseparable from the profound neurophysiological, psychological and social characteristics of the subject, who should realize himself or herself as part of "the postmodern self" (Ivanov, Seryy, & Yanitskiy, 2017).

The neurophysiological mechanisms of the feeling of security in society are well-objectified by non-verbal manifestations of the contacts between people, namely facial and kinetic. For instance, Coan et al. (2017) have studied the effects of social regulation through handholding or tactile touches between the subjects who are or are not in different relationships. Their research proves that holding hands can be perceived as a gesture of social support, especially between people of the same status or relationship. However, "more acceptable social support corresponds to less brain activity in the expanded network associated with similar processes, but only during

the very process of handholding. These facts prove the importance of contacts and their context for neurophysiological relief of social stress.

All major types of emotional responses (rapid autonomic and slow cortical) have been discovered and confirmed by MRI in neurophysiology over the last quarter of a century. Cortical responses underlie cognitive data processing. Mirror neurons discovered in the late 20th century have confirmed the neurophysiological nature of empathy, decision-making, social adaptation and emotional modelling of the reflected world, which is directly related to the neurophysiology of professionalization (McDonald, 2017).

However, the safety of professionalization subjects in psychological and neuropsychological aspects has not yet been comprehensively studied. Therefore, this research is extremely relevant. Besides, the methodological substantiation of the structural and functional organization of personal protection as a subject of professionalization is necessary to eliminate the fragmentary nature of the study of this problem,

The purpose of the study is to empirically verify the structural and functional organization of personal protection as a subject of professionalization, taking into account psychological and neuropsychological factors.

Methods and materials

The process of constructing a structural and functional model of professional protection of the individual shows that the psychological construct of professional protection should be considered as: 1) such a psychological state that is guaranteed to protect the professional interests of the individual; 2) a set of conditions of existence of the subject of professional realization, which he has mastered and is able to control.

The proposed model is based on the methodological principles and conditions of the neuropsychological subjective, systemic and synergetic approaches (the subjective principle determines the subjective features expressed in subjective-personal characteristics, the systemic principle - substantial features expressed in socially personal characteristics; the synergetic principle - qualitative features that are integrative sign of professional protection of the individual.

There are six substructures in the structure of subject-personal characteristics: *personality orientation, projections of a person's life path or self-consciousness, abilities, temperament and character, mental processes and states, subject experience*. In the structure of socio-personal characteristics there are three substructures: *the scope of the specialist, the age of the individual and working*

conditions. Aspects of studying the professional protection of the individual as an integrative synergetic system in which the subject-personal and socio-personal characteristics are expressed functional means of qualitative changes in personality are clarified and generalized. Taking into account these integrative features of personality, which appear in the process of development and affect the construction of professional life, as well as the conditions on the ambiguity of their formation at different stages of professional socialization, because their nature and content change under the influence of many socio-psychological factors the nature of constant dynamic development.

The research sample consisted of: students of graduating classes of secondary schools of Lutsk (NVK (Educational complex) № 20, № 22, № 24) (n = 180); 4th and 5th year students of the Faculty of Psychology, Faculty of Education, Institute of Social Sciences, Institute of Economics and Management of the East European National University named after Lesia Ukrainka (n = 230); mid-level doctors and medical staff of the Volyn Regional Clinical Hospital, the Volyn Regional Infectious Diseases Hospital, the Lutsk Primary Health Care Center № 2 and the Lutsk City Children's Polyclinic (n = 441). The total sample is 851 people.

The program of empirical research contains four blocks: Block 1 - is devoted to explication of empirical referents of professional protection within the limits of early professionalization of the person; Block 2 - explication of empirical referents of professional protection of the person in the conditions of professional training; Block 3 - explication of empirical referents of professional protection of the individual in terms of professional implementation; Block 4 - explication of empirical referents of professional protection of the individual in emotionally stressful conditions of professional realization. Accordingly, the sample of students consisted of graduates of secondary schools, 4th and 5th year students and mid-level doctors who work in ordinary and special conditions. Also, the sample of medical workers was differentiated into four groups according to two criteria - length of service and conditions of professional activity.

The characteristics of psychodiagnostic tools used in these blocks of the empirical research program are described. The first block of the empirical program devoted to the explication of empirical referents of professional safety within the early professionalization of personality used the following psychodiagnostic methods: methods of diagnosing the level of social frustration (Vaserman, Iovlev, & Berebin, 2004) (a modified version); Questionnaire to study the relationship between personality type and the sphere of professional activity (Holland, 1973); methods of studying the

mental states of schoolchildren (Prokhorov, 1997); method "Index of attitude to health"; personal questionnaire for high school students (Cattell, & Coan, 1959); anxiety questionnaire in older adolescents and young people; questionnaire of professional attitudes of older adolescents (Kondakov, 1997); scale of research of children's Ego-concept (Piers, & Harris, 2002) in adaptation and rationing of Prikhozhan (2007); Eysenck's questionnaire (Eysenck, & Eysenck, 1975); in the second block of the empirical program devoted to explication of empirical referents of professional safety within the limits of professional training of the person the following is used: a technique of diagnostics of level of social frustration (Vaserman, Iovlev, & Berebin, 2004); life satisfaction index adaptation; Ryff's scale of psychological well-being (Ryff, 1989) in the adaptation of Lepeshinskiy (2007); methods of studying the main motives for choosing a profession; optimism-activity scale (Corning, & Myers, 2002); the method, called "Diagnosis of the motivational structure of personality" (Milman, 2005); the questionnaire of formal-dynamic properties of individuality (Rusalov, 1997); FPI personal questionnaire (modified form B); questionnaire for the study of dominant states (DS-8) (Kulikov, 2004); the questionnaire for diagnosing self-actualization of personality; test-questionnaire of personal maturity; methods of diagnosis of socio-psychological adaptation (Rogers, & Dymond, 1954); in the third and fourth blocks of the empirical program devoted to the explication of empirical referents of professional safety within the professional realization of personality in normal and special conditions, used for two groups of samples psychodiagnostic methods: in addition to the above methods were additionally involved: methods of studying socio-psychological attitudes in motivational-needs sphere , multilevel personal questionnaire "Adaptability" (MLO-AM), methods of studying coping behavior strategies (SACS scale), test questionnaire "Lifestyle Index" Style Index) (Plutchik, 1979).

Results

After conducting a one-way analysis of variance and determining statistically significant correlations between the level of social frustration and diagnostic criteria that determine the subjective and personal characteristics of professional protection of high school students, the results were factorized to identify generalized sets of characteristics that affect the development of characteristics conditions of professionally safe condition of high school students, using during its implementation only those indicators that are statistically significantly correlated with the level of social frustration.

As a result of factor analysis, the structure of subject-personal characteristics of professional protection of high school students with different levels of social frustration was established. In high school students with a high level of social frustration, the factors "*emotional well-being*", "*conformity*", "*caution*", "*anxiety*", "*social type*", "*expressiveness*", "*intellectual development*" (specified factors describe about 76% of the variance of the data set); middle school students have the factors "*responsibility*", "*dominance*", "*independence*", "*conventional type*", "*restraint*" (over 67%); and in high school students with a low level of social frustration, the factors "*positive behavior*", "*real enthusiasm*", "*independence*", "*determination*", "*intellectual nihilism*", "*expressiveness*", "*sociability*" (70% variance of the data set) were identified.

Using *the method of multiple regression analysis*, the main indicators that determine the high level of social frustration of students - "*caution*" ($\beta = 0.490$), "*intellectual development*" ($\beta = 0.193$), "*anxiety*" ($\beta = 0.182$), psychological content which is concentrated in such features as distrust, skepticism, aggressive straightforwardness of the studied students; high levels of intelligence contribute to the general development of curiosity, insight, and concentration, but frustrating signs of anxiety make them insecure and confused, and as a result, lead to a state of hopelessness, self-blame, insecurity, despair and confusion. The average level of social frustration of high school students is determined by indicators of "*responsibility*" ($\beta = -0.521$), "*dominance*" ($\beta = 0.490$), "*independence*" ($\beta = 0.148$) and "*restraint*" ($\beta = 0.137$), which determine the general background of the developed social competence as a powerful factor of self-actualization that stimulates self-realization of the individual through the ability of the individual to interact effectively with other people, take responsibility for decision-making and exercise authority and demanding, guided by healthy selfishness and self-esteem. The low level of manifestation of social frustration of high school students is determined by the indicators of "*independence*" ($\beta = 0.592$) and "*sociability*" ($\beta = 0.227$), which constitute a zone for the development of optimal conditions for a professionally safe state of the personality, which will protect high school students in real and future time a means of the existing ability to interact with other people, a developed sense of proportion in relationships and interaction with people, the ability to be tactful and sensitive to the mood of others; their formed independence is expressed in self-esteem, responsibility and practicality of thoughts and specific actions, defines the face of social and professional activity and organization of an individual.

The statement of psychodiagnostic data in the second block of the empirical program was carried out according to the results of differentiation

of the studied students according to the level of manifestation of social frustration, which was determined by the method of the same name (Vaserman, Iovlev, & Berebin, 2004): group 1 - students with high social frustration (27.8%); group 2 - average level (39.1%), group 3 - students with a low level of social frustration (33.1%).

After using the Kolmogorov-Smirnov z-normality criteria (Stepnov, 1985), more than 88% of diagnostic criteria were found to correspond to the normal distribution ($p \leq 0.05$), and the non-parametric N-Kruskal-Wallis criteria was used (Kruskal, & Wallis, 1952), confirmed the differences between groups of students with different levels of social frustration (confidence level from $p \leq 0.01$ to $p \leq 0.001$). The factorization procedure made it possible to obtain an unambiguously interpreted factorial model of the subjective-personal characteristics of students' professional protection with different levels of social frustration, which included factors: "*life satisfaction*", "*sympathy in interaction with other people*", "*poise*", "*creativity*", "*working orientation*", "*flexibility in communication*", "*shyness*", "*achievement of social status*", "*emotional sensitivity*", "*desire to lead*", which describe about 55% of the dispersion of an array of empirical data.

The use of the z-transform method to determine the levels of expression of factors in three groups of respondents and the non-parametric U-Mann-Whitney criteria (Mann, & Whitney, 1947) made it possible to determine statistically significant differences in the expression of the selected factors in the studied groups ($p \leq 0.001$), except for two factors "*achieving social status*" and "*desire to manage*".

The application of the method of multiple regression analysis made it possible to determine the main determinants of the integrated indicator of psychological well-being of respondents. The prognostic determinants of psychological well-being of students with a high level of social frustration include "*shyness*" ($\beta = 0.682$) in signs of anxiety and insecurity, lack of a positive self-image, expressed communicative emotions and general "*life dissatisfaction*" ($\beta = -0,360$) in signs of low assessment of psychological well-being, instability of emotional tone, general low tone, neuroticism, the dominant state of boredom and passivity. An integral indicator of the psychological well-being of students with an average level of social frustration is most determined by "*shyness*" ($\beta = 0.343$) and "*creativity*" ($\beta = 0.223$) in a set of signs of autonomy, spontaneity and a pronounced need for knowledge.

For students with a low level of social frustration, the prognostic determinants of the integrated indicator of psychological well-being were "*creativity*" ($\beta = 0.421$) in all signs of readiness for self-realization, "*life*

satisfaction" ($\beta = 0.386$) in the complex of positive self-esteem, high psychological well-being, stability of emotional tone, high general tone, energy, cheerfulness and *"sympathy in interaction with other people"* ($\beta = 0.385$), which is expressed in the developed communicative ergic, speed and plasticity, which contribute to the development of communication with other people and their life values are full of feelings of happiness and life integrity and justice.

The statement of psychodiagnostic data in the third block of the empirical program was carried out in accordance with the results of differentiation of the studied specialists in medical specialties according to the level of social frustration, which was determined using the same method (Vaserman, Iovlev, & Berebin, 2004). In total, the sample of medical workers was differentiated into four groups according to two criteria - length of service and conditions of professional activity (group of medical workers with professional experience up to 5 years) ($n = 205$), among which 90 medical workers work in normal conditions, and 115 - in special conditions and a group of medical workers with professional experience of more than 5 years ($n = 236$), among which 124 medical workers work in normal conditions, and respectively 112 - in special conditions).

The data obtained during the diagnosis in groups of medical workers (adapted to certain conditions) working in normal and special conditions of professional activity were subjected to mathematical and statistical analysis using the z-criteria of normality Kolmogorov-Smirnov ($p \leq 0.05$), nonparametric H – Kruskal-Wallis criteria (confidence level from $p \leq 0.01$ to $p \leq 0.001$), which allowed to apply the procedures of factor and multiple regression analysis for all groups of subjects (Kruskal, & Wallis, 1952).

As a result of factorization for adapted persons (AP) with a high level of social frustration, working in normal conditions, the following factors were obtained: *"active involvement in life"*, *"manipulative spontaneity"*, *"shyness"*, *"communicative activity"*, *"acceptance of others"*, *"neurotic autonomy"*, *"sociability"*, *"cognitive alienation"*, *"maintenance of social status"*, which describe 59.6% of the variance of the empirical data. Medium-level adapted persons have *"socio-psychological adaptation"*, *"professional productivity"*, *"social comfort"*, *"creativity"*, *"determination"*, *"emotional stability"*, *"search for social support"*, *"purposefulness"* and *"ability to work"* (51.7% of the variance). The results of factor analysis in a group of adapted persons with a low level of social frustration, framed by factors: *"reactivity"*, *"adaptive potential"*, *"self-esteem"*, *"positivity"*, *"impartiality"*, *"autonomy"*, *"social affirmation"*, *"acceptance of others"* and *"self-confidence"* (69.3% of the variance of the data set).

It was found that the determinants of the integrated indicator of psychological well-being among AP with a high level of social frustration, working in normal conditions were "*manipulative spontaneity*" ($\beta = -0.308$), "*active involvement in life*" ($\beta = 0.247$), "*neurotic autonomy*" ($\beta = 0,195$), which largely determine the characteristics of the desire to manage the environment, uncritical self-perception and self-doubt, which are manifested in the hidden indirect actions of manipulating people and demonstrating authority over others; at the same time, these medical workers are actively involved in life, they have a high rate of integrated life support index, a clear interest in life, they are consistent in achieving goals, and at the same time can be creative; their expressed independence is full of neurotic signs of excessive thinking about their own actions in the process of social interaction. The prognostic determinants of occupational protection of AP with an average level of social frustration, who work in normal conditions, mostly include the characteristics of "*purposefulness*" ($\beta = 0.574$) with a sense of clear awareness of past and present events; expressed "*creativity*" ($\beta = 0.255$), but in terms of "*professional productivity*" ($\beta = -0.132$), these medical professionals do not have a stable, emotionally sustained attitude to various professional situations. In AP with a low level of social frustration, who work in normal conditions, the characteristics of natural "*impartiality*" ($\beta = 0.731$) are most pronounced in the signs of friendliness, purposefulness, interest in life, conflict-free attitude to themselves and activities, optimism and cognitive activity. , altruism; they are deprived of "*reactivity*" ($\beta = -0.178$), so they are energy efficient and balanced; as well as the desire for social status through the recognition of others ("*social affirmation*" ($\beta = -0.153$)).

As a result of mathematical and statistical analysis of factor analysis data for AP who work in special conditions, we obtained data for each of the studied groups on the level of manifestation of social frustration. Thus, for a group of AP with a high level of social frustration, working in special conditions, a nine-factor model was obtained: "*irritability*", "*impulsiveness*", "*alienation*", "*independence*", "*aggressive actions*", "*shyness*", "*interest in life* ", "*pessimism* " and "*autonomy* ", which describe 63.5% of the variance of the array of empirical data. For a group of AP with an average level of social frustration - "*adaptive potential*", "*curiosity*", "*self-acceptance*", "*work orientation*", "*livelihood*", "*need for knowledge*", "*active dominance*", "*avoidance of social contacts*", "*internal passivity* " (54.9%). For AP with a low level of social frustration, who work in special conditions as a result of factoring an array of empirical data, the following factors were obtained: "*entry into social contact*", "*professional devotion*", "*altruism*", "*life satisfaction*", "*professional diplomacy*", "*vital apathy* ", "

consistency in achieving goals ", " *self-acceptance* " and " *cognitive activity* " (58.8% variance of the data set).

The application of the method of multiple regression analysis, allowed to determine the main determinants of the integrated indicator of psychological well-being of AP with a high level of social frustration, working in special conditions, including "*pessimism*" ($\beta = 0.576$), "*aggressive actions*" ($\beta = -0.251$) and "*irritability*" ($\beta = 0.229$), which together determine the signs of intolerance and frustration; their intellectual rigidity and communicative slowness determine the low need for communication, and the weakness of the emotional tone is not manifested in distrust and aggression; although they are prone to neuropsychiatric disorders and irritability, which neutralizes their adaptive abilities. The prognostic determinants of professional protection of AP with an average level of social frustration include a pronounced "*work orientation*" ($\beta = 0.455$), which is supported by creative activity, propensity for extraordinary and original decisions, emotional balance; their blocked "*self-acceptance*" ($\beta = -0.382$) confirms the presence of difficulties in social contacts "*avoidance of social contacts*" ($\beta = 0.137$), but does not deprive these medical workers of "*curiosity*" ($\beta = 0.130$) as a reinforcing stimulus of cognitive activity and needs for self-improvement.

The same procedure for processing diagnostic data was applied to medical workers with more than 5 years of professional experience working in normal and special conditions.

The prognostic determinants of professional protection of masters with a high level of social frustration, working in normal conditions, include a pronounced "*neuroticism*" ($\beta = 0.262$), supported by emotional lability and shyness, their poorly developed super-ego excludes the acceptance of others and the system formed values of harmonious interaction with other people "*low super-ego*" ($\beta = 0.252$), which can explain the excessive desire for dominance over others, success and approval "*manipulative dominance*" ($\beta = 0.238$). For masters with an average level of social frustration - "*self-understanding*" ($\beta = -0.409$) and "*professional tact*" ($\beta = 0.344$) demonstrate the denial of manifestations of human sensitivity to their own desires and needs, which allows to adequately perceive and evaluate themselves; the general background of their individual-dynamic and personal properties is determined by the expressed need for motor activity and communicative ergic, balance, sociability, stress resistance, endurance and decision-making ability. Generalization of the dominant factor characteristics of medical workers with a low level of social frustration "*friendliness*" ($\beta = 0.285$), "*intellectual confidence*" ($\beta = -0.278$), "*emotional stability*" ($\beta = 0.207$) and

"*autonomy*" ($\beta = 0.204$) emphasizes the signs of their friendliness, friendliness and openness, they have the techniques of professional communication, and in interaction with people sincere in emotions and thoughts; intellectual confidence is not expressed, but they are emotionally stable, have a high level of self-regulation and behavior, which confirms their endurance and efficiency; signs of social maturity are reflected in such characteristics of self-actualization as autonomy, trust in people and impartiality.

In the group of masters with a high level of social frustration, working in special conditions, the following factors were identified: "*negative self-image*", "*uncritical self-acceptance*", "*adaptive communication*", "*operational formality*", "*communicative tact*", "*focus on process*", "*need for knowledge*", "*life support*" and "*aggressiveness*", which describe 61% of the variance of the array of empirical data. Specialists with an average level of social frustration - "*contact*", "*communicative competence*", "*self-concept*", "*creativity*", "*skepticism*", "*interest in life*", "*dissatisfaction with life*", "*vital activity*" and "*intellectual ergic*" (59.2%). Experts with a low level of social frustration demonstrate a factor model that includes "*self-esteem*", "*adaptive abilities*", "*sociability*", "*orientation*", "*professional competence*", "*caution*", "*creative activity*", "*reactive aggression*", "*reactive aggression*" and "*positive self-image*" (67.6% of the data array variance).

For medical workers with a high level of social frustration who work in special conditions, the factors "*operational formality*" ($\beta = 0.589$), "*process orientation*" ($\beta = 0.261$) and "*negative self-image*" ($\beta = 0.155$) had the greatest impact, the psychological content of which is determined by the operational formality due to the pronounced focus on the process of activity, characterized by strict compliance with the operational requirements of professional activity; the formed negative image of oneself reflects signs of high criticism in the assessment of oneself, insecurity and anxiety and dissatisfaction with life in general, which actually blocks the development of positive life goals. In the group of masters of medical workers with an average level of social frustration - factors "*interest in life*" ($\beta = 0.451$) and "*contact*" ($\beta = 0.312$) state a pronounced level of their self-actualizing signs of respect for values, time orientation and acceptance of others, confirming a high level personal competence and social maturity; developed contact is a confirmation of their sociability, friendliness and openness. For health workers with a low level of social frustration who work in special conditions - the factors of "*positive self-image*" ($\beta = 0.531$) and "*self-esteem*" ($\beta = 0.451$) in psychological terms characterize these medical workers as professionals with a formed attitude to themselves and self-acceptance, which determines the level of their adequate self-esteem and self-criticism; expressed self-esteem

confirms the formed sense of self-esteem, confidence, balance, endurance and inner endurance, which is generally the result of their ability to love other people, to show tolerance and flexibility in interacting with others.

The analysis allows us to conclude that the identified indicators of the subjective-personal profile of medical workers with different lengths of professional activity (up to 5 years and more than 5 years), and who work in different conditions, contain significant differences in the criteria division studied by the level of social frustration expressed.

Discussion

The article considers the theory of social security as an element of personal security. In particular, it confirms the theory of the decisive role of psychological and neuropsychological mechanisms of the subjective influence on non-standard decision-making. An optimal application of such approaches is in the prevention, preventive avoidance and resolution of social and ethical conflicts, which is the key to comfortable professionalization (Bush, 2015).

Professionalization, as one of the aspects of socialization, is associated with several psychological dangers for a person. Indeed, Sheinov (2016) points out that there are manipulative tendencies in modern society at all levels of interaction with a person, which cause psychological discomfort or other negative psychological states in 92% of cases. Self-affirmation and assertiveness serve as protection against such manipulations during social adaptation and (as a next stage of) professionalization, while goal setting in the context of social support and relationships weakens such protection. This fact has been proven by experiments with significant representativeness in both men and women (over 500 respondents). This applies to absolutely all professional groups, namely, students, cadets, university teachers, service workers, social workers (Sheinov, 2016).

The article proves the neuropsychological theory about one's subjectivity, which manifests itself both in individual activities and in the social context. The provisions on the neuropsychological and neurosocial potential of everyone's ability "to expand their subjectivity, develop and assimilate sociocultural experience in accordance with the neurobiological inclinations of their subjectivity (to become the highest result of the interaction between the natural and the social)" have proved to be valid (Glozman, 2012, p. 31).

Also, the obtained results confirm the need to develop neurosocial and neuropsychological aspects of subjective reflection, as well as all types of

feedback, which are a prerequisite for socialization and professionalization in education and professional development (Kazlauskiene, & Barabanova, 2020).

Besides, the scientific novelty of the obtained results is that *for the first time*:

- the structural-functional model of professional protection of the person is developed;

- the specifics of functioning of mechanisms of satisfaction of actual need of professional realization of the person (latent inhibition and consequent growth) are revealed and nominative modes of professional protection of the person (neurotic, normative and productive) are specified;

- *developed* the definitive articulation of the concept of "professional protection of the individual" and highlighted its integrative function in the system of personal life;

- further development of substantiation of synergetic effects in the integrative system of professional protection of the individual (weakening and strengthening) and "targets" of professional counseling influence in psychological practice of blocking mechanisms of latent inhibition of meeting the urgent need for professional realization at each stage of professional development , positive institutional perception of future professional life, self-regulation and self-control of professional activity, constructive initiation of professional competence).

The practical significance of the results is that certain psychological features of the structural and functional organization of personal protection as a subject of professionalization and the proposed "targets" of professional counseling can be used in the practice of creating developmental and correctional programs to improve professional comfort and well-being at different stages of professional development personalities in educational and medical institutions.

Theoretical provisions and practical achievements of the thesis can be used in the teaching of academic disciplines "General Psychology", "Psychodiagnostics", "Differential Psychology", "Labor Psychology and Engineering Psychology", "Health Psychology", "Psychological Foundations of Professional Counseling" and for the duration of the passage research practice of masters and graduate students of the specialty "Psychology".

Conclusions

A structural and functional model of professional protection of the individual is developed, which is based on methodological principles and

provisions of systemic, neuropsychological subjective and synergetic approaches, the content of which determines the subjective, semantic and qualitative characteristics that are manifested respectively in subject-personal, social -personal and integrative personality traits.

It is noted that a potentially regulating factor in the manifestation of professional protection of the individual is the experience of social satisfaction / frustration, which most clearly outlines the success of professional realization of the individual at different stages of formation. The main empirical referents of studying the protection of the individual as a subject of professionalization at all stages of its formation from the period of professional choice (orientation), the period of initial professional development (higher education) and the period of professional implementation taking into account working conditions are outlined.

The scientific position of the empirical study of professional protection of the individual is realized in the separation of the experience of social satisfaction, the system-forming factor of which is the urgent need that initiates the manifestation of successful professional realization. Empirical identification of subject-personal and socio-personal characteristics of persons who differ in the parameters of professional functioning, their age range of professional development and working conditions, was carried out in the mode of fixing the level of social satisfaction / frustration of the individual in each of the four blocks of the empirical program devoted to the study of empirical referents of professional protection in the period of professional optation, professional training in higher education, within the professional realization of personality in normal and special conditions on the example of medical workers.

The results of the study demonstrated the excellent content of empirical referents of professional protection of the individual in the period of professional optation, professional training and actual professional implementation in ordinary and special conditions of activity.

Given the list of subject-personal characteristics of the studied high school students in the period of professional optation, which have differences in manifestation depending on the level of social frustration (high, medium, low), identified such urgent needs for professional implementation as *actualization of stimulus-passive activity*, *actualization -cognitive activity*, *actualization of creatively balanced activity*. In the studied students at the level of the actual need for professional realization recorded the *actualization of normergy-spending activity*; *actualization of normergic-accumulative activity*; *actualization of creative and effective activity*. At medical workers with experience

up to 5 years who work in normal conditions, at the level of actual needs of professional realization actualization of neurotic-impulsive activity is specified; *actualization of operational and economic activity; actualization of adaptive-productive activity*; and for medical workers with up to 5 years of experience who work in special conditions - *the actualization of emotionally rigid activity; actualization of operative-adaptive activity; actualization of adaptive-compensatory activity*. At medical workers with more than 5 years of experience who work in normal conditions at the level of actual needs of professional realization *actualization of neurotic-manipulative activity is noted; actualization of normative-conformal activity; actualization of adaptive-conventional activity*; and for medical workers with more than 5 years of experience who work in special conditions - *the actualization of operational and rigid activity; actualization of mobilization-adaptive activity; actualization of adaptive-optimal activity*.

References

- Bakhmat, N., Maksymchuk, B., Voloshyna, O., Kuzmenko, V., Matviichuk, T., Kovalchuk, A., Martynets, L., Uchytel, I., Solovyov, V., Manzhos, E., Sheian, M., Aliexsiev, O., Slyusarenko, N., Zhorova, I., & Maksymchuk, I. (2019). Designing cloud-oriented university environment in teacher training of future physical education teachers. *Journal of Physical Education and Sport, 19(4)*, 1323–1332. <http://efsupit.ro/images/stories/august2019/Art%20192.pdf>
- Behas, L., Maksymchuk, B., Babii, I., Tsymbal-Slatvinska, S., Golub, N., Golub, V., & Maksymchuk, I. (2019). The influence of tempo rhythmic organization of speech during gaming and theatrical activities on correction of stammering in children. *Journal of Physical Education and Sport, 19(4)*, 1333–1340. <http://efsupit.ro/images/stories/august2019/Art%20193.pdf>
- Berezin F. B. *Psikhicheskaya i psikhofiziologicheskaya adaptatsiya cheloveka* [Mental and psychophysiological adaptation of a person]. Leningrad: Science. <https://www.ozon.ru/context/detail/id/22471109/>
- Bezliudnyi, O., Kravchenko, O., Maksymchuk, B., Mishchenko, M., & Maksymchuk, I. (2019). Psycho-correction of burnout syndrome in sports educators. *Journal of Physical Education and Sport, 19(3)*, 1585–1590. <http://efsupit.ro/images/stories/septembrie2019/Art%20230.pdf>
- Bozhovych, L. I. (1979). Etapy formirovaniya lichnosti v ontogeneze [Stages of personality formation in ontogenesis]. *Voprosy psikhologii* [Questions of psychology], 4, 23–34.

- Bush, S. S. (2015). *Ethical decision making in clinical neuropsychology*. Oxford: Oxford University Press. <https://www.amazon.com/Ethical-Decision-Making-Clinical-Neuropsychology/dp/0195328221>
- Cattell, R. B., & Coan, R. W. (1959). Objective-test assessment of the primary personality dimensions in middle childhood. *British Journal of Psychology*, 50, 235–252. <https://doi.org/10.1111/j.2044-8295.1959.tb00701.x>
- Coan, J. A., Beckes, L., Gonzalez, M. Z., Maresh, E. L., Brown, C. L., & Hasselmo, K. (2017). Relationship status and perceived support in the social regulation of neural responses to threat. *Social Cognitive and Affective Neuroscience*, 12, 1574–1583. <https://pubmed.ncbi.nlm.nih.gov/28985422/>
- Corning, A. F., & Myers, D. J. (2002). Individual orientation toward engagement in social action. *Political Psychology*, 23(4), 703–729. <https://www.jstor.org/stable/3792364>
- Druzhilov, S. A. (2010). *Individualnyy resurs cheloveka kak osnova stanovleniya professionalizma* [Individual human resource as the basis for the formation of professionalism]. Voronezh: Scientific book. <https://www.academia.edu/26297114>
- Eysenck, H. J., & Eysenck, S. B. G. (1975). *Manual of the Eysenck personality questionnaire*. Kent: Hodder and Stoughton. http://www.sjdm.org/dmidi/Eysenck_Personality_Questionnaire.html
- Frankl, V. (1990). *Chelovek v poiskakh smysla* [Man in search of meaning]. Moscow: Progress. <https://www.yakaboo.ua/chelovek-v-poiskah-smysla.html>
- Gerasymova, I., Maksymchuk, B., Bilozero, M., Chernetska, Yu., Matviichuk, T., Solovyov, V., & Maksymchuk, I. (2019). Forming professional mobility in future agricultural specialists: the sociohistorical context. *Revista Romaneasca pentru Educatie Multidimensionala*, 11(4), 345–361. <https://doi.org/10.18662/rrem/195>
- Glozman, Zh. M. (2012). O subiektnosti lurievskoi neiropsikhologii [On the subjectivity of Lurievsky neuropsychology]. *Vestnik Moskovskogo universiteta. Seriya 14. Psikhologiya* [Journal of Moscow University. Series 14. Psychology], 2, 31–36. <http://msupsyj.ru/articles/detail.php?article=1550>
- Haletska, I., & Sosnovskiy, T. (2006). *Psikhologiya zdorov'ya: teoriya i praktika* [Psychology of health: theory and practice]. Lviv: Educational Center of I. Franko Lviv National University. <https://www.twirpx.com/file/1888271/>
- Holland, J. L. (1973). *Making vocational choices: a theory of careers*. Englewood Cliffs, NJ: Prentice-Hall. https://openlibrary.org/books/OL5413510M/Making_vocational_choices
- Ivanov, M. S., Seryy, A. V., & Yanitskiy, M. S. (2017). *Mobility as strategy of providing personal security in postmodern society*. Proceedings of the International

- Conference on Research Paradigms Transformation in Social Sciences.
Tomsk: Fuutre academy. <https://elibrary.ru/item.asp?id=36994550>
- Kahneman, D., & Tversky, A. (2000). *Choices, values, and frames*. Cambridge: Cambridge University Press.
- Kazlauskiene, A. K., & Barabanova, I. (2020). Neuropedagogy: preconditions for application of neuroscience results in the education process while providing feedback. *Technium: Romanian Journal of Applied Sciences and Technology*, 2(5), 112–122. <https://doi.org/10.47577/technium.v2i5.1246>
- Kokun, O. M. (2012). *Psykhohohiia profesiynoho stanovlennya suchasnoho fakhivtsya* [Psychology of professional formation of a modern specialist]. Kyiv: Information and analytical agency. <https://www.twirpx.com/file/1806184/>
- Kondakov, I. M. (1997). *Diagnostika professionalnykh ustanovok podrostkov* [Diagnosis of professional attitudes of adolescents]. *Voprosy psikhologii* [Psychology Issues], 2, 122–130. <http://www.voppsy.ru/issues/1997/972/972122.htm>
- Kruskal, W. H., & Wallis, W. A. (1952). Use of ranks in one-criterion variance analysis. *Journal of the American Statistical Association*, 47(260), 583–621. <https://www.jstor.org/stable/2280779>
- Kulikov, L. V. (2004). *Psikhohigiyena lichnosti: voprosy psikhologicheskoy ustoychivosti i psikhoprofilaktiki* [Personal psychohygiene: questions of psychological stability and psychoprophylaxis]. Saint Petersburg: Peter. <https://www.twirpx.com/file/264176/>
- Lepeshinskiy, N. N. (2007). *Adaptatsiya oprosnika "Shkala psikhologicheskogo blagopoluchiya"* C. Ryff [Adaptation of the questionnaire "Scale of psychological well-being" by C. Ryff]. *Psikhologicheskii zhurnal* [Psychological Journal], 3, 24–37. <http://elibrary.miu.by/journals!/item.pj/issue.15/article.3.html>
- Maklakov, A. G. (2001). *Lichnostnyy adaptatsionnyy potentsial: yego mobilizatsii i prognozirovaniye v ekstremal'nykh usloviyakh* [Personal adaptive potential: its mobilization and forecasting in extreme conditions]. *Psikhologicheskii zhurnal* [Psychological Journal], 22(1), 16–24. <https://studfile.net/preview/4225080/page:3/>
- Maklakov, A. G., & Sidorova, A. A. (2011). *Formirovaniye adaptatsionnogo potentsiala lichnosti i yego razvitiye v protsesse obucheniya v vuze* [Formation of the adaptive potential of the personality and its development in the learning process at the university]. *Vestnik Leningradskogo gosudarstvennogo universiteta imeni A. S. Pushkina* [Bulletin of A. S. Pushkin Leningrad State University], 5(4), 41–51. <http://cyberleninka.ru/article/n/formirovanie-adaptatsionnogo-potentsiala-lichnosti-i-ego-razvitiye-v-protsesse-obucheniya-v-vuze> (accessed: 01/30/17). - The name from the screen.

- Maksymchuk, I., Maksymchuk, B., Frytsiuk, V., Matviichuk, T., Demchenko, I., Babii, I., Tsybmal-Slatvinska, S., Nikitenko, A., Bilan, V., Sitovskiy, A., & Savchuk, I. (2018). Developing pedagogical mastery of future physical education teachers in higher education institutions. *Journal of Physical Education and Sport*, 18(2), 810–815.
<http://efsupit.ro/images/stories/iunie2018/Art%20119.pdf>
- Mann, H. B., & Whitney, D. R. (1947). On a test of whether one of two random variables is stochastically larger than the other. *Annals of Mathematical Statistics*, 18, 50–60. <https://projecteuclid.org/euclid.aoms/1177730491>
- Maysak, N. V. (2012). *Profilaktika lichnostnykh deformatsiy i destruktivnykh spetsialistov stressogennykh professiy* [Prevention of personal deformations and destruction of specialists of stressful professions]. Moscow: MPSU.
<https://www.bookvoed.ru/book?id=5966704>
- McDonald, S. (2017). Emotions are rising: the growing field of affect neuropsychology. *Journal of the International Neuropsychological Society*, 23, 719–731. doi:10.1017/S1355617717000844
- Melnyk, N., Bidyuk, N., Kalenskyi, A., Maksymchuk, B., Bakhmat, N., Matviienko, O., Matviichuk, T., Solovyov, V., Golub, N., & Maksymchuk, I. (2019). Modely y orhanyzatsiyone osobyne profesyonalne obuke vaspitytacha u pojedynym zemlyama Evropske Unyje y u Ukrayiny [Models and organizational characteristics of preschool teachers' professional training in some EU countries and Ukraine]. *Zbornik Instituta za pedagogsku istrazivanja*, 51(1), 46–93. <https://ipisr.org.rs/images/pdf/zbornik-51/Natalija-Meljnik.pdf>
- Milman, V. E. (2005). *Motivatsiya tvorchestva i rosta: struktura, diagnostika, razvitiye* [Motivation of creativity and growth: structure, diagnostics, development]. Moscow: Mireya and Co. <https://www.twirpx.com/file/42405/>
- Nerubasska, A., & Maksymchuk, B. (2020). The demarkation of creativity, talent and genius in humans: a systemic aspect. *Postmodern Openings*, 11(2), 240–255.
<https://www.lumenpublishing.com/journals/index.php/po/article/view/2625>
- Oboznov, A. A. (2003). *Psikhicheskaya regulyatsiya operatorskoy deyatel'nosti v osobykh usloviyakh rabochey sredy* [Mental regulation of operator activity in special conditions of the working environment]. Moscow: Institute of Psychology RAS. https://psyjournals.ru/editorial_boards/64195.shtml
- Olefir, V. O. (2015). *Intelektualno-osobystisnyy potentsial samorehulyatsiyi subyekta diyalnosti* [Intellectual-personal potential of self-regulation of the subject of activity]. Kharkiv: Ukrainian Engineering and Pedagogical Academy.
<http://psychology.univer.kharkov.ua/prepody/Olefir.html>

- Petrova, I. V. (2017). Renesansna kontsepsiia dozvillia za tvoramy Petrarky [The Renaissance concept of leisure in the works of Petrarch]. *National Academy of Managerial Staff of Culture and Arts Herald*, 3, 3□ 7. http://nbuv.gov.ua/UJRN/vdakkkm_2017_3_3
- Piers, E., & Harris, D. (2002). *Children's self-concept scale*. Los Angeles, CA: Western Psychological Services. <https://www.rand.org/education-and-labor/projects/assessments/tool/1963/piers-harris-childrens-self-concept-scale-second-edition.html>
- Plutchik, R., Kellermann, H., & Conte, H. R. (1979). A structural theory of ego defenses and emotions. In C. Izard (Ed.), *Emotions in Personality and Psychopathology* (pp. 229–257). New York, NY: Plenum. https://link.springer.com/chapter/10.1007/978-1-4613-2892-6_9
- Prikhozhan, A. M. (2007). *Diagnostika lichnostnogo razvitiya detey podrostkovogo vozrasta* [Diagnosis of the personal development of adolescent children]. Moscow: PEB. <https://www.twirpx.com/file/310095/>
- Prokhorov, A. O. (1997). *Metodiki diagnostiki psikhologicheskikh sostoyaniy lichnosti* [Methods for the diagnosis of psychological states of personality]. Kazan: PER SE. <https://www.twirpx.com/file/674130/>
- Rogers, C. R., & Dymond, R. F. (1954). *Psychotherapy and personality change: coordinated research studies in the client-centered approach*. Chicago, IL: University of Chicago Press. <https://www.amazon.com/Psychotherapy-Personality-Change-Coordinated-Client-centered/dp/0226723755>
- Rusalov, V. M. (1997). *Oprosnik formalno-dinamicheskikh svoystv individualnosti* [Questionnaire of the formal-dynamic properties of personality]. Moscow: IPAN. <https://psyttests.org/temperament/ofdsi.html>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069–1081. <https://pdfs.semanticscholar.org/0b7c/bc0e7b5946b39778784a2167019eedbd53e52.pdf>
- Sheinov, V. P. (2016). Kachestva lichnosti, sposobstvuiushchie ee zashchishchennosti ot manipuliatsii [Personality qualities enhancing its security against manipulation]. *Vestnik rossiiskogo universiteta družby narodov. Seriya: psikhologiya i pedagogika* [RUDN Journal of Psychology and Pedagogics], 3, 20–27. <http://journals.rudn.ru/psychology-pedagogics/article/view/14424/13560>
- Sheremet, M., Leniv, Z., Loboda, V., & Maksymchuk, B. (2019). The development level of smart information criterion for specialists' readiness for inclusion implementation in education. *Information Technologies and Learning Tools*, 72, 273–285. <https://journal.iitta.gov.ua/index.php/itlt/article/view/2561>

- Smirnov, B. A., & Dolgoplova, E. V. (2007). *Psikhologiya deyatelnosti v ekstremalnykh situatsiyakh* [Psychology of activity in extreme situations]. Kharkiv: Humanitarian Center. <https://www.twirpx.com/file/218577/>
- Stepnov, M. N. (1985). *Statisticheskiye metody obrabotki rezul'tatov mekhanicheskikh ispytaniy* [Statistical methods for processing the results of mechanical tests]. Moscow: Mechanical Engineering. <https://www.termist.com/bibliot/stud/stepnov/232.htm>
- Tytarenko, T. M., & Klyapets, O. Ya. (2007). *Zapobihannya emotsiynomu vyborannyy v simyi yak faktor harmonizatsiyi simeynykh vzayemyn* [Prevention of emotional burnout in the family as a factor of harmonization of family relationships]. Kyiv: Millennium. <https://lib.iitta.gov.ua/8741/>
- Vaserman, A. I., Iovlev, B. V., & Berebin, M.A. (2004). *Metodika dlya psikhologicheskoy diagnostiki urovnya sotsialnoy frustrirovannosti i yeye prakticheskoye primeneniy* [Methodology for the psychological diagnosis of the level of social frustration and its practical application]. Saint Petersburg: V. M. Bekhterev St. Petersburg Research Psychoneurological Institute. <https://www.twirpx.com/file/703225/>
- Vasilyuk, F. E. (1995). *Zhiznennyi mir i krizis: tipologicheskii analiz kriticheskikh situatsiy* [Life world and crisis: a typological analysis of critical situations]. *Psikhologicheskii zhurnal* [Psychological Journal], 16(3), 90–101.
- Zlobina, O. H. (1996). *Osobyist sobodni: adaptatsiya do suspilnoyi nestabilnosti* [Personality today: adaptation to social instability]. Kyiv: IS NANU. https://scholar.google.com.ua/scholar?hl=ru&as_sdt=0,5&cluster=15670314482012098129