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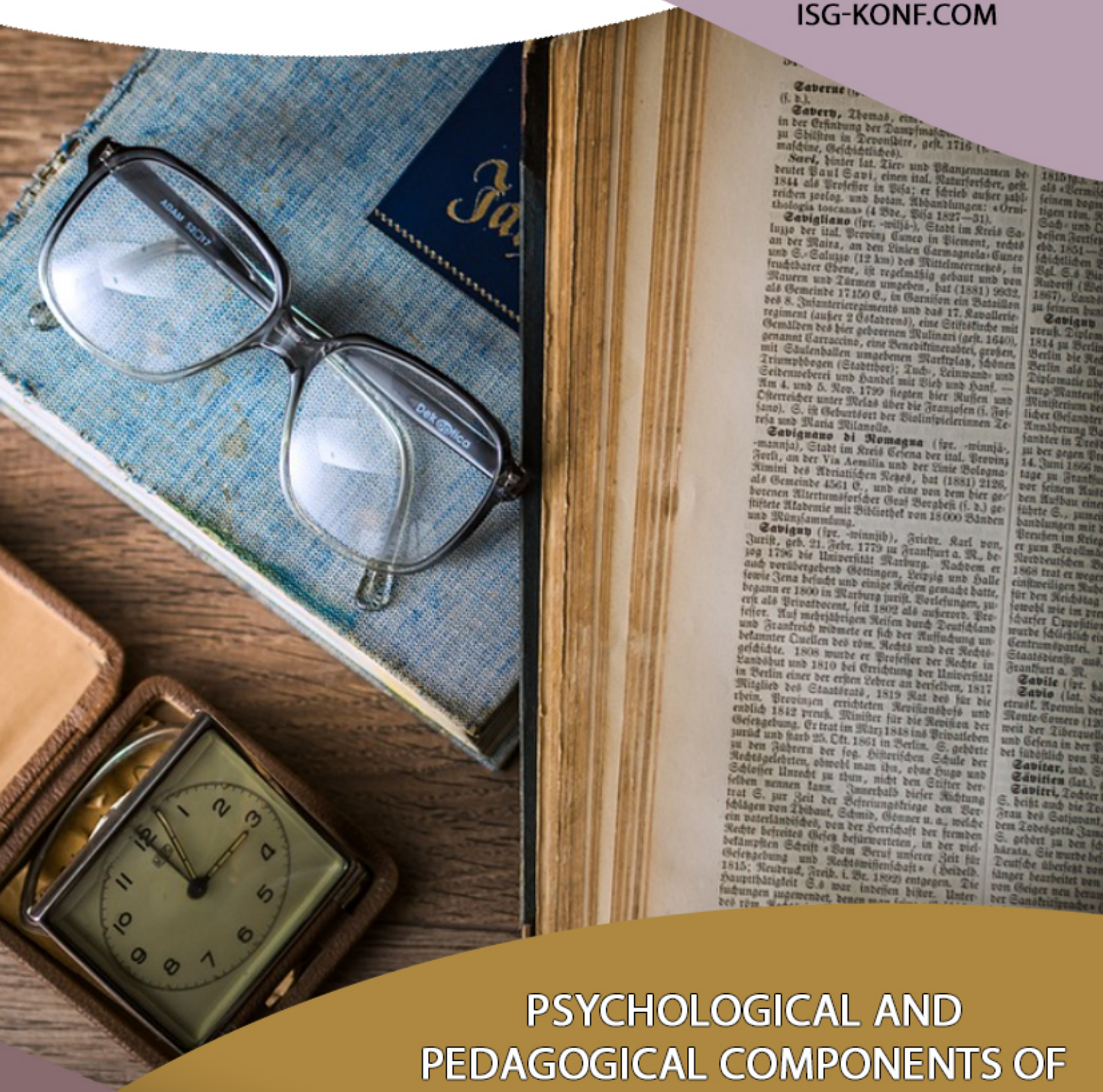

PSYCHOLOGICAL AND PEDAGOGICAL COMPONENTS OF THE QUALITY OF PROFESSIONAL ACTIVITY OF SCIENTIFIC AND PEDAGOGICAL WORKERS

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This monograph is devoted to the issue of psychological and pedagogical factors, which affect the quality of professional activity of scientific and pedagogical workers of higher educational institutions in the modern context of social advancement. It describes a psychological and pedagogical model of ensuring the quality of professional activity of scientific and pedagogical workers and its psychological and pedagogical components, a methodology for their determination and assessment of development.

It is addressed to specialists in the field of psychology, pedagogy and related disciplines, students, postgraduates, doctoral students, and the community of educators.

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SUMMARY

The monograph takes the point further of the quality of professional activity of a scientific and pedagogical worker at the present stage of human development and its criteria. It grounds the psychological and pedagogical model, which ensures the quality of professional activity of academic staff. This model epitomizes a system of psychological and pedagogical elements (units) with specified characteristics and properties, which correctly correspond in their value, purpose, and time. They reproduce the process of providing and maintaining a high level of professional knowledge, skills, general and professional competencies, personal qualities and self-organization, professional abilities, professional orientation and activity, motivation for an effective professional activity and psychological and pedagogical professional reputation in interaction with applicants for higher education.

It is proved that in structural and functional terms the psychological and pedagogical model of ensuring the quality of professional activity of a scientific and pedagogical worker includes the following interrelated functional units: 1) a knowledge-competency-personal module, which maintains the academic staff's knowledge, skills, competencies, personal qualities and reputation at a proper level; 2) a professional-motivational module, which motivates to achieve success in professional activities; 3) a professional-managerial module, which effectively manages the higher education process; 4) a professional-orientational module, which ensures its positive professional orientation; 5) a professional-constructive module, which shapes its psychological and pedagogical reputation, as well as prevents occupational hazards. In general this model contains 16 components, which are functionally interacting and ensure the quality of a scientific and pedagogical worker's professional activity.

The author has developed a methodology for determining and evaluating the level of development of the quality of research and teaching staff's professional activity and all its components.

The level of professional activity of each scientific and pedagogical employee of the sample is empirically determined based on the assessment of its components.

The features and differences are also empirically revealed concerning the quality of professional activity of seven subgroups of scientific and pedagogical workers, grouped by their age and length of teaching experience.

The monograph broadens knowledge about the content of psychological and pedagogical professional reliability of a scientific and pedagogical worker and its dependence on the worker's professional burnout. The author has further developed the following*:* ideas about the psychological and pedagogical components of the quality of professional activity of scientific and pedagogical workers; methods of psychodiagnostics of psychological and pedagogical professional reliability of a scientific and pedagogical worker.

Keywords: *quality of professional activity of scientific and pedagogical workers; quality criteria; psychological and pedagogical model of quality assurance; core of quality of professional activity; psychological and pedagogical professional reliability; professional deformation; professional burnout.*

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ABBREVIATIONS AND NOTATIONS

HEIs – higher education institutions;

AS – academic staff (scientific and pedagogical workers);

KSCQ – a combination of knowledge, skills, competencies, personal qualities and their effective use by scientific and pedagogical workers during the educational process (acronym of ***knowledge, skills, competencies, qualities***);

AS Subgroup I – a subgroup of scientific and pedagogical workers, which numbers 44 people from the sample, whose teaching experience ranges from 1 to 5 years, and the age is from 23 to 28 years;

AS Subgroup II – a subgroup of scientific and pedagogical workers, which numbers 44 people from the sample, whose teaching experience ranges from 6 to 12 years, and the age is from 29 to 35 years;

AS Subgroup III – a subgroup of scientific and pedagogical workers, which numbers 44 people from the sample, whose teaching experience ranges from 13 to 19 years, and the age is from 36 to 42 years;

AS Subgroup IV – a subgroup of scientific and pedagogical workers, which numbers 44 people from the sample, whose teaching experience ranges from 20 up to 26 years, and the age is from 43 to 50 years;

AS Subgroup V – a subgroup of scientific and pedagogical workers, which numbers 44 people from the sample, whose teaching experience ranges from 27 to 33 years, and the age is from 51 to 57 years;

AS Subgroup VI – a subgroup of scientific and pedagogical workers, which numbers 44 people from the sample, whose teaching experience ranges from 34 to 40 years, and the age is from 58 to 65 years;

AS Subgroup VII – a subgroup of scientific and pedagogical workers, which numbers 44 people from the sample, whose teaching experience is more than 40 years, and the age is more than 65 years.

INTRODUCTION

Nowadays, the relevance of the study results from the fact that education is the foundation of economic and social development of any state, its competitiveness, the size of economic potential, military security, etc. Higher education plays an important role in the continuous process of training specialists for various branches of economic activity. However, according to experts, its quality is not high enough in many countries, including Ukraine. Therefore, improving the quality of higher education is very important at this stage of human development. In general, one of the leading directions of ensuring the necessary quality of education is to improve the actual quality of professional activities of teachers.

Scientists have long talked about the quality of professional activity of educational workers, including higher education in the world, and recently quite actively in Ukraine. Thus, the law of Ukraine On Higher Education also deals with the quality of higher education [41, Art. 1, Para. 1, Item 23] and with the quality of educational activities [41, Art. 1, Para. 1, Item 24].

Nowadays, there is the National Agency for Higher Education Quality Assurance (NAQA) in Ukraine. The Agency and higher education institutions have developed dozens of different documents on the quality of higher education in a short time. However, there is neither a scientifically based concept or a model of high-quality professional activity of a scientific and pedagogical worker, nor a scientifically based methodology for its assessment up to date. In our opinion, the above and other aspects, negatively affect the quality of educational activities of higher education institutions (HEIs) in Ukraine. Thus, according to Times Higher Education, only 10 Ukrainian HEIs were included in the annual prestigious ranking of World Universities in 2022.

Hence, the relevance and actual loose end of ensuring a high level of professional activity of each scientific and pedagogical worker predetermined the choice of the research topic in modern conditions. This resulted from the public need for high-quality professional activity of academic staff concerning training of highly

qualified specialists who can acquire new knowledge independently and routinely, and be competitive throughout professional activity as well.

Object of research: the quality of professional activity of scientific and pedagogical workers in modern conditions of human development.

Subject of research: psychological and pedagogical components of the quality of professional activity of scientific and pedagogical workers, their definition, and assessment of their level of development.

Research objectives: a theoretical and experimental substantiation of the psychological and pedagogical model of ensuring the quality of professional activity of a scientific and pedagogical worker, based on its components (elements).

In accordance with the purpose of the research, the following **tasks are set in this academic paper:**

1) to analyse theoretical and methodological approaches to determining the quality criteria for training future specialists in higher education institutions, based on modern requirements and needs for the development of an information-oriented society with constant and rapid knowledge renewal;

2) to develop a psychological and pedagogical model of ensuring the quality of professional activity of a scientific and pedagogical worker, and to determine its components;

3) to conduct an empirical study aimed at determining the level of development of scientific and pedagogical workers' quality of professional activity, depending on their teaching experience and age.

The theoretical and methodological background to the study includes: conceptual provisions on the social determinism of mental development and self-development of an individual; systems genetics approach to analyse mental phenomena; psycho-energetic and energy-psycho-functional approaches to the activity of the human psyche; theories of personality-oriented methodology for the development of professional activity based on the acquisition of knowledge, skills, social norms, ideals, and values; cultural, proactive and competency-based approaches to the educational process; axiological approach to the activity;

provisions on the social nature of changes in the educational environment; communicative approach; synergetic approach; personal approach; systematic approach; structural and functional approach; intersubjective approach; conceptual provisions on professional destructions, deformation, and burnout of teachers.

To solve the tasks, appropriate theoretical, empirical and statistical **research methods** are used.

The theoretical methods (historical, logical and system analysis of scientific literature, comparison, generalization, and systematization of the information received, structured system analysis, modelling) aimed at identifying, ordering, and systematizing knowledge about the quality of professional activity of academic staff, the development, and justification of a psychological and pedagogical model for ensuring the quality of professional activity of a scientific and pedagogical worker.

The empirical methods aimed to assess the quality of professional activity of academic staff and included the following methods of psychodiagnostics: a) to assess the quality of professional activity of academic staff: 1) The methodology for determining how effectively teachers put their pedagogical skills and qualities into practice (M. Varyi, M. Koz'ar, M. Koval') is used to measure the effectiveness of teachers when they practice their pedagogical skills and display their qualities during their scientific and pedagogical activities; 2) The Communication Skills and Leadership (CS&L-2) Assessment Methodology is used to determine AS's communicative and organizational abilities; 3) The Leadership Style Assessment Methodology (O. Kozlovska, A. Romaniuk, V. Urunskyi) is used to split AS into groups according to their autocratic, passive and democratic management styles of the educational process; 4) The Professional Orientation Assessment Methodology: self-orientation – matter orientation – formal interaction orientation (V. Smackle, M. Kucher) is used to determine the degree of AS's manifestation of professional orientation according to the following vectors: self-orientation, matter orientation and formal interaction orientation; 5) The Effectance Motivation Assessment Methodology (T. Ehlers) is used to determine whether scientific and pedagogical workers are motivated to succeed; 6) The Failure Avoidance Motivation Assessment

Methodology (T. Ehlers) is used to determine whether AS is motivated to avoid failure; 7) The AS Professional and Cognitive Burnout Assessment Methodology is used to determine academic staff's professional and cognitive reliability and burnout; 8) The AS Professional Burnout and Volitional Exhaustion Assessment Methodology is used to determine scientific and pedagogical workers' professional-volitional reliability and burnout; 9) The Professional Burnout Syndrome Assessment Methodology (C. Maslach and S. Jackson; Option 2 for teachers, lecturers and trainers, adapted by N. Vodopianova) is used to determination the following in academic staff: a) professional and emotional reliability and burnout; b) personalization and depersonalization; c) significance and reduction of personal achievements.

Mathematical statistics: The Geometric Mean Method is intended to calculate coefficients of the quality of AS's professional activity. The Kolmogorov-Smirnov test is used to determine the subordination of empirical distributions to a specific model. The Kruskal-Wallis test is used to determine the average variance of distribution-free parameters to assess and explain the differences in the expression (development) of the studied phenomena in the AS groups of different ages and teaching experience. The Pearson correlation coefficient is used to calculate the correlation between the components of the quality of AS's professional activity. The author used the SPSS 23.0 application to process statistical data.

Experimental background to the study. The author conducted the study in several higher education institutions of Ukraine. The sample consists of 308 scientific and pedagogical workers. The age of the academic staff varied from 23 to 77 years, whose teaching experience was from 1 to 49 years. All of them had higher education, hold the positions of assistants (lecturers), senior lecturers, associate professors, professors, and heads of departments with a wage rate from 0.5 to 1.5 on a state budget and commercial basis. The sample was split into 7 subgroups of academic staff according to their length of teaching experience (LOTE) and age. Each subgroup numbered 44 people, namely: Subgroup I (LOTE: 1-5 years, age: 23-28 years); Subgroup II (LOTE: 6-12 years, age: 29-35 years); Subgroup III (LOTE: 13-19 years,

age: 36-42 years); Subgroup IV (LOTE: 20-26 years, age: 43-50 years); Subgroup V (LOTE: 27-33 years, age: 51-57 years); Subgroup VI (LOTE: 34-40 years, age: 58-65 years); Subgroup VII (LOTE: more than 40 years, age: older than 65 years).

The theoretical significance of the study involves theoretical grounding for the psychological and pedagogical model of ensuring the quality of AS's professional activity and its components.

The practical significance of the study involves developing a methodology to assess the quality of AS's professional activity and all its components. Psychologists and lectures can use the key outcomes of the study to develop practical measures to level the negative impact of various factors on the quality of AS's professional activities. The theoretical aspects of the paper can be used during the following training courses: Age Psychology, Pedagogical Psychology, Psychology And Pedagogy of Higher Education, Psychology of Deformation, etc.

SECTION 1
DISCUSSION OF THE QUALITY CRITERIA OF SCIENTIFIC AND PEDAGOGICAL WORKERS' PROFESSIONAL ACTIVITY AS A PSYCHOLOGICAL AND PEDAGOGICAL PROBLEM

1.1. Professional activity of research and teaching staff and its requirements in the modern context of social advancement as the conditions for ensuring its quality

Nowadays, everyone concerns about what teachers' professional activity should be at the present stage of human development to ensure that both the younger generation and other people acquire knowledge, skills, and competencies at high level to constantly develop intensively and have high competitiveness of the state economy in the world. This includes employees of higher educational institutions, in particular, academic staff. The analysis of works on the problem of criteria for the quality of professional activity of scientific and pedagogical workers shows that, on the one hand, science did not raise this question directly. On the other, numerous tasks, in fact, contain such criteria, and they should solve them during the educational process. Thus, those skills and abilities will be the criteria for the quality of professional activity of academic staff that, in fact, allow them to solve effectively all this set of tasks of the educational process in higher education. Based on this, the paper must take the point further of the essence and content of professional activity of academic staff in the context of solving the entire set of educational tasks through the lens of the learning outcomes that applicants for higher education should achieve.

Thus, academic staff ensure that people of different ages receive higher education, which, according to the law of Ukraine On Higher Education, represents a set of systematized knowledge, skills and hands-on experience, ways of thinking, professional, ideological and civic qualities, moral and ethical values, other competencies obtained in a higher education institution (scientific institution) in the relevant field of knowledge for a specific qualification at the levels of Higher

Education, which in complexity are higher than the level of complete general secondary education [41, Art. 1, Para. 1, Item 5].

Actually, "scientific and pedagogical workers are people who, at their main place of work in institutions of higher education, carry out educational, methodological, scientific (scientific and technical, artistic) and organizational activities" [41, Art. 53]. Academic staff must: "1) provide teaching at a high scientific-theoretical and methodological level of academic disciplines of a relevant curriculum in a relevant speciality, and conduct scientific activities (for scientific and pedagogical workers); 2) improve their professional level, pedagogical skills, and scientific qualifications (for scientific and pedagogical workers); 3) adhere to the norms of pedagogical ethics, morals, respect the dignity of people studying in higher education institutions, infuse them with love for Ukraine, educate them in the spirit of Ukrainian patriotism and respect for the Constitution of Ukraine and state symbols of Ukraine; 3^{-1}) observe academic integrity in the educational process and scientific (creative) activities and ensure its compliance by applicants for higher education; 4) develop independence, initiative, creative abilities in people studying in higher education institutions; 5) comply with Charters of higher education institutions, laws, and other statutory instruments" [41, Art. 58].

The law of Ukraine On Higher Education generally sets out the following requirements and tasks for AS's professional activity:

- "scientific, scientific-technical, innovative and/or methodological activities", "management of educational process and acquisition of higher and postgraduate education by people, considering their vocations, interests, and abilities" at certain levels of higher education [41, Art. 1, Para. 1, Item 7];

- building a particular set of general and professional competencies in applicants for higher education at certain levels of higher education; each of them is a dynamic combination of "knowledge, skills and hand-on experience, ways of thinking, professional, ideological and civic qualities, moral and ethical values <…>" [41, Art. 1, Para. 1, Item 13];

- direct their professional activity to obtain specific learning results by applicants for higher education, which are "knowledge, skills, ways of thinking, views, values, other personal qualities that can be identified, planned, evaluated and measured and that a person can demonstrate after a curriculum or individual educational components" [41, Art. 1, Para. 1, Item. 19].

Let us note that in general, the professional activity of a scientific and pedagogical worker aims at both transferring knowledge, skills, and abilities to applicants for higher education, the formation of their general and professional competencies and at educating, enabling their socialization, adaptation, harmonious development, forming readiness for continuous learning throughout life, independent search for the latest knowledge, as well as professional, moral and civic qualities, etc.

Based on the above, it is clear what professional aspects a scientific and pedagogical worker should master to perform their professional activities efficiently. Actually, these aspects of AS's professional activity and preparation for it are described in numerous publications. An analysis of these papers results in the following definition of AS's professional activity:

- systematic planning, management, implementation, and assessment of the educational process in accordance with the goals set, as well as improving its effectiveness based on the appropriate use of human and technological resources [67];

- "continuous management of students' activities, which ensures the development of their main personal qualities" [104, p. 19];

- a sophisticated system of a set of different types of activities [130, p. 349];

- a system of "scientifically based actions of active elements (participants) of the educational process, the implementation of which ensures the achievement of the set educational goals at a high level" [47, p. 42];

- an activity system-related way to manage the of educational process, which involves arranging a set of activities and operations to set pedagogical goals and objectives, determine the content, organizational, information-subject, methodological and procedural aspects of mastering knowledge, building various

types of skills and personal qualities [117, p. 27];

- the process of building the skills of future professional activity and conditions in applicants for higher education for their comprehensive harmonious development, including professional one [1];

- the process of designing, forming, organizing and managing student's educational activities of [90, p. 53];

- the process covering the following links: 1) perception of necessity; 2) motivation; 3) choice of the method of carrying out activities; 4) planning activities with the definition of specific actions; 5) their implementation [136].

- a system that develops under synergistic laws, which, according to V. Kovalchuk, "<…> together with the system of dialectical laws, principles, and categories is a methodological tool for explaining the main characteristics, individual features, attributes of the educational process as a whole, which includes pedagogical theory and practice as its integral parts" [56, c. 147];

- implementation of epistemological, or research, constructive, predictive, organizational and communicative components [30];

– "the process which allow controlling indirect information exchange, is reproducing and forming culture and public consciousness, regulating the process of economical, spiritual and social growth of the society as a whole [97, p. 432];

The analysis shows that the papers mentioned above do not even contain the concepts of quality of professional activity of a teacher, quality of professional activity of a scientific and pedagogical worker, quality of pedagogical activity, quality of teaching, etc. However, the professional activity of a teacher (scientific and pedagogical worker) must undoubtedly be effective and of high quality.

However, some scientists use the concepts of quality of education and quality of higher education but interpret them differently. Thus, the Pedagogical Dictionary of Russian scientists G. Kojaspirova and A. Kojaspirov contain the following meaning of the concept of quality of education: 1) a certain level of knowledge and skills, mental, moral and physical development of students at a certain stage, in accordance with a certain goal; 2) a degree of satisfaction of the needs of various

participants in the educational process with educational services provided. According to them, the quality of education is measured by its compliance with educational standards, depends on the level of prestige of education in the public consciousness and the system of state priorities, financing and material and technical condition of educational institutions, as well as their modern management technologies for them [Cit. for 52].

A specific part of researchers considers the quality of education as a social category, which determines both the state and effectiveness of the education process in society, and its compliance with the needs of various social groups for the development and formation of social, everyday and professional competencies of an individual. From these positions, S. Shyshov and V. Kal'ney define "quality of education" as "a degree of satisfaction of the needs of various participants in the educational process" [148].

Russian scientist M. Potashnyk suggests determining the quality of education by the ratio of results and goals [110, p. 33]. Researcher B. Zhebrovskyi points out that the quality of education should be considered in a procedural and effective context. Actually, the quality of education is the satisfaction individual needs and its compliance with the interests of society and the state in the procedural context. In the context of effectiveness (as a result of the activities of an educational institution) it is the compliance with the training level of students, according to current curricula requirements. In this case, according to the author, the quality of education reflects all areas and aspects of an educational institution's activities, that is, the results of educational activities, the level of professional training of its teaching staff, and the ability of its administration to create appropriate conditions for the functioning and development of the educational institution [38].

According to E. Vladimirska, "the quality of higher education should be defined through the lens of educational activities and considered systematically. Therefore, the quality of higher education is an integrative matter first resulted from the activities of the higher education system in general, if we are talking about the

national level, or as an integrative matter resulted from the activities of a university (in the case of a very specific one)" [21].

If we rely on international positions, then, for example, UNESCO introduce several semantic meanings to the concept of quality of education in its Global Education Monitoring Report 2004, defining it as: 1) access to formal education and duration of study; 2) access to higher education; 3) equal opportunities for citizens to exercise their rights to education; 4) resource provision (that is, the share of GDP allocated to meet the needs of education, including per student, and based on teachers' salaries, etc.); 5) the ability to choose the trajectory of education; 6) the availability of standards of training and education [153].

However, from the above, we understand that the quality of professional activity of a scientific and pedagogical worker is not considered in a direct statement. The Report mentions only a teacher's own responsibility, conscience, and requirements to the teacher as a person and its professional activities.

Indeed, a significant number of requirements are applied to a scientific and pedagogical employee of a modern institution of higher education. They are considered to be those factors that, if met, ensure the quality of their professional activities. These requirements include:

- AS's necessary general and professional knowledge, skills, and competencies;
- AS's personal responsibility for the effectiveness of their professional activities;
- creativity during professional activities;
- proficiency in modern pedagogical and information technologies;
- knowledge, possession and ability to apply innovative methods of invoking the educational process;
- systematic vision of educational and professional reality;
- ability to reflect on phenomena and processes that take place in the educational space;
- a high communicative culture, including the ability to overcome communication barriers;

- high organizational skills;

- ability to interact with applicants for higher education, establish cooperation to achieve high learning outcomes;

- ability to establish feedback, etc.

Nowadays, the relevant standard of higher education generally specifies the social requirements for higher education in Ukraine. However, a significant number of publications [60-61; 84] and others indicate that our higher education institutions lag behind the quality of education in institutions of developed countries of the world. Therefore, it is not surprising that obtaining higher education in higher education institutions of Ukraine is unattractive for foreigners, despite its low cost compared to the cost of higher education in Europe and the United States.

A question arises: why is the quality of educational services provided in higher education institutions of Ukraine lower than in Europe and the United States?

Of course, is by a number of objective (lack of funding, outdated material and technical base, including for conducting research work, etc.) and subjective (first, the previous level of training of applicants for higher education, their world view, motivation, etc., inefficient professional training of scientific and pedagogical workers, which does not meet the modern realities of the development of science and technology, the needs and challenges of the modern information society, as well as their poor-quality professional activities, etc.) factors influenced this.

However, some researchers point out in vain that Ukraine does not pay attention to the quality of educational services provided. It pays attention! In addition, they introduce measures to improve their quality level. Thus, the law of Ukraine On Higher Education determines: 1) the quality of higher education as "compliance of learning outcomes with the requirements established by law, the relevant standard of higher education and/or the contract for the provision of educational services [41, Art. 1, Para. 1, Item 23]; 2) the quality of educational activity as "the level of management of the educational process in a higher education institution that meets the standards of higher education, ensures that individuals receive high-quality higher

education and contributes to the creation of new knowledge" [41, Art. 1, Para. 1, Item 24].

However, the law of Ukraine On Higher Education [41] ignored the quality of professional activity of a scientific and pedagogical worker, without which neither the quality of higher education nor the quality of providing educational services is possible.

Various documents developed in higher education institutions determine internal standards for ensuring the quality of educational activities and higher education. The Internal Quality Standards of Educational Activities and Higher Education, Part I of Lviv Polytechnic National University [23] is a good example which shows a severe attitude to the quality of educational services. However, even the methodology is imperfect for assessing the quality of professional activity of a scientific and pedagogical worker.

As a rule, the quality of professional activity of an individual scientific and pedagogical worker is most often assessed based on an annual rating in higher education institutions in Ukraine. The rating results from the published number of scientific papers, especially in the Scopus and Web of Science scientific bases, textbooks, etc., and the time spent on educational, methodological, scientific and organizational work (which, by the way, includes academic work); the development and certification of an educational and methodological complex for a discipline and placement in a virtual educational environment; the development and teaching of an English-language course in a higher education institution, reading lectures in foreign institutions of higher education, participation in educational and methodological seminars/training in Ukraine and abroad, management and participation in international projects, etc.

In this context, the author should note that this does not fully reflect the real quality of professional activity of a scientific and pedagogical worker in the context of professional training of applicants for higher education since students in a group could have different academic performance in secondary school (college, gymnasium, etc.), be more or less prepared, capable or incapable, etc. Many papers

published by them, the preparation of various didactic materials, etc., do not always directly disproportionately affect the improvement of the quality level of the educational process in a higher education institution.

At the same time, in Ukraine, by tacit consent, it is also considered that a high level of AS's pedagogical skill automatically ensures the high quality of his professional activity. The skills include their high educational culture, level of professional and academic competency, level of pedagogical professionalism, etc. This consent results in scientists revealing it indirectly without using the word "quality" itself. Thus, many papers reveal the quality through the presence of a scientific and pedagogical employee of high educational culture or a high level of academic skill, professional-pedagogical competency, professionalism, etc.

The author should say that neither detailed knowledge of all aspects of professional activity in higher education institutions nor high professionalism of their academic staff. Further, as the text goes, we will talk only about scientific and pedagogical workers since the content of their activities differs from the professional training of academic staff in higher education institutions, according to the law of Ukraine On Higher Education [41, Art. 53, 58] does not yet ensure the quality of its educational activities and higher education.

Thus, based on the study of papers on the problem of the quality of professional activity of scientific and pedagogical workers, we have established that it is not identical to the concept of educational skill, culture, competency, and abilities.

1.2. Psychological and pedagogical problems of ensuring the quality of professional activity of academic staff

Carrying out their professional activities, scientific and pedagogical workers must effectively perform various functions and numerous tasks in the educational process that require appropriate general and professional knowledge, skills, abilities, competencies, powers, personal qualities, etc. Therefore, to ensure the quality of

professional life**,** scientific and pedagogical workers must solve many psychological and pedagogical problems in the context of their professionalization and maintenance during the activity.

The first is the problem of the constant support of high-level of basic knowledge and skills in academic staff, as well as their general and professional competencies, to ensure all types of activities in higher education institutions and provide high-quality educational services.

Numerous papers further discuss the significance and role of essential knowledge and skills, including the scientific investigations of O. Antonova [2], Yu. Babanskyi [4], A. Petrovskyi [105], O. Shcherbakova [149], O. Robotova [18], O. Pashkovska [101], Yu. Repieva [115], O. Hura [30] and others.

Academic staff develops general and professional competencies based on their knowledge and skills, so they often discuss a competency-based approach to their professional training. The works of T. Brazhe [14], Yu. Vardanyan [16], B. Hershunskyi [26], N. Ostrikova [99], V. Stenkov [127], M. Stepka [128-129], V. Shadrykova [144] and others cover various aspects of this approach.

Thus, according to M. Stepka, the essence of the competency approach is to shift the emphasis from the accumulation of normatively defined knowledge, skills and abilities to the formation and development of students' ability to act practically, apply individual techniques and experience successful actions in situations of professional activity and social practice. Thus, they ensure a high readiness of graduates for successful activity in various industries [129, p. 59].

Competency, as a specialist's readiness and ability, is advisable to use theoretical knowledge and existing experience to solve relevant problems, explains Yu. Vardanyan [16], V. Medviediev [80] and others.

Researchers V. Onushkin and E. Oharev consider competency as the ability to act ex professo, which means the correspondence of their competence, knowledge and skills to the actual content, the complexity of tasks, how they perform, and the problems they solve [94, p. 10; 95, p. 75].

The views of M. Choshanov are extraordinary, and he deduces the following

competency formula: Competency is the mobility of knowledge + flexibility of methods + critical thinking [143, p. 9].

As for the professional competency that ensures the productive activity of individuals, T. Brazhe emphasizes that their professional, scientific knowledge, value orientations, motives of activities, understanding of the world around them and their place in it, attitude to the people they work with, their general culture, and the ability to develop their creative potential defined [14].

Most scientists study the professional competency of teachers and lecturers based on educational competency, including creativity, the ability to navigate academic problems, non-standard thinking, organizational, communicative and other skills, tolerance, tact, etc. In turn, scientists' interpretation of educational competency evolves from its simple definition as a set of personality traits with a high level of psychological and pedagogical training, which together provide a high level of professional-pedagogical activity [69], including its complex integrated nature. This nature harmoniously combines perfect knowledge of the subject, a particular worldview, teaching methods, personal qualities, skills and abilities (culture) of scholarly communication, organizational abilities and other components. They allow teachers to self-develop effectively and provide intellectual and activity development [77; 84; 123].

At the beginning of the XXI century, global education scientists and experts attempted to come to one definition of competency. They proposed to use two of them in 2004. The first definition interpreted competency as the ability to apply knowledge and skills effectively and creatively in interpersonal relationships – in situations involving interaction with other people both in a social context and in professional contacts [156].

According to the International Department of Educational Standards, the second definition of competency, professional implementation and personal development, is revealed through "the ability to conduct activities professionally, perform tasks or activities based on the acquired set of knowledge, skills and attitudes, which allows the individual to effectively act or perform certain functions

aimed at achieving standards in the professional field or a certain activity" [157].

However, the concepts of competence and competency are often confused. We will not clarify the positions of researchers regarding these concepts, since they are outlined in a number of sources, including the works of G. Vyalikova [25], I. Zimnya [44-45], G. Kojaspirova [124]; I. Chemerys [141], V. Shadrykov [144], P. Shyshov [147] and others.

For example, G. Vyalikova points out that the difference between the concepts of "competence" and "competency" is that "the last is subjective, that is, a competent specialist is a subject who has certain competences (knowledge, skills, experience), which allows the specialist to carry out professional activities productively in any field" [25, p. 16]. Meanwhile, researchers S. Shyshov and V. Kal'ney suggest that the difference between these concepts is that "being competent does not mean being a scientist or educated. It means: to mobilize the acquired knowledge and experience in a particular situation, to identify the attitude to this situation through specific activities" [147; 148, p. 83].

According to V. Shadrykov, when it comes to competency, attention is focused on how an individual acquires knowledge, skills and experience to solve various business and life situations, work in a group, and so on. On the contrary, the authors associate competence with different interrelated groups of knowledge and skills [144, p. 28].

According to I. Zimnya, competency is always an actual manifestation of competence. Since competence reflects the cognitive and operational-technological aspects of an individual's activity, competency, in addition to the above, also acquires motivational, humanistic-value and effective features [44, p. 6].

In the European educational space, there are three groups of competencies that a modern specialist should possess: fundamental, general and specific for certain areas of professional activity. In Ukraine and neighbouring countries, pedagogy has not yet developed a unified view of the hierarchy of competencies. For Example, A. Khutorskoy identifies fundamental competencies related to general education; general subject competencies that reflect general subject knowledge and experience

in one of the areas of activity; subject competencies that reflect specific aspects in the chosen field of activity [139, p. 63]. There are three groups of a specialist's competencies, according to V. Shadrykov. The first group includes social and personal competencies, the second one comprises general professional competencies, which serve as the basis for flexible orientation of a specialist in the labour market, and the third one includes special ones that provide concretization of general professional competencies [144, p. 31].

Fundamental competencies are those that any person should possess, regardless of their field of activity. For example, W. Hutmacher attributes political and social competencies to fundamental ones related to life in a multicultural society (multicultural competency) as well as those associated with the development of the information society and the ability (competency) to learn throughout life [154, p. 11]. In this list, several educational European organizations additionally introduce such competencies as entrepreneurship, general awareness in the field of Science and technology, and cultural expression [129, p. 44].

According to scientists V. Bidenko [5], O. Gluzman [28] and O. Pometun [109], fundamental competencies should ensure an individual's participation in many social spheres, improve the quality of society and contribute to personal success.

Therefore, fundamental competencies should ensure adequate socialization of an individual in society and become the basis for its professional implementation.

The Tuning Educational Structures in Europe educational project presents general competencies as an interrelated block of competences that includes: 1) instrumental competences are primary, general and professional knowledge; the ability of an individual to analyse and synthesize, organize and plan; communication skills; computer skills; information management skills; the ability to solve problems and make decisions; 2) interpersonal competences that reflect individual abilities of a person, which are associated with the ability to express feelings, critical thinking and the ability to self-criticize, as well as the skills of social interaction, cooperation, the ability to work in a group; the ability to take social and ethical obligations; 3) System competences, which combine various instrumental and interpersonal competences

into appropriate systems, which allows the individual to improve himself and effectively carry out professional and social activities [158].

Developing an academic worker's necessary personal qualities is an essential psychological and pedagogical problem in ensuring professional activity quality. Scientific literature uses the concept of: "professional qualities", "professionally significant qualities", "professionally important qualities", "professional psychological qualities", and "personal qualities". In fact, these concepts are synonymous due to the fact that in the works of different authors they are used in the same meaning, although each scientific and pedagogical worker, as a person, is unique [71].

We use the concept of personal qualities, meaning that they integrate unique traits and properties most inherent in scientific and pedagogical workers. For example, G. Meshko believes that the essential qualities include a career interest, pedagogical vocation, inclinations, duty and responsibility, professionalism, culture, professional competency, skills, potential, abilities, technique, and creativity [83]. According to other criteria, K. Gnezdilova divides personal qualities into general (consciousness), moral (individual social characteristics), intellectual (mental), voluntary and emotional (individual self-regulation). One of the important general qualities is social orientation, the components of which are a socially valuable goal, socially significant motives for behaviour and activity, the presence of beliefs, value orientations, and so on. Thus, moral qualities include humanism, hard work, integrity, honesty, responsibility, decency, etc.; intellectual rates include logic, awareness of activity, prudence, objectivity, etc.; volitional qualities include independence, discipline, independence, training, etc. [28, p. 151].

According to, I. Pidlasiy, the personal qualities are: Humanity, honesty, decency, responsibility, Justice, obligation, objectivity, high morality, kindness, optimism, emotional balance, benevolence, self-criticism, modesty, friendliness, integrity, etc. [107, p. 243].

In Western Europe, professionally important qualities of teachers include, for example, sociability, a high level of self-control, self-confidence, willingness to

cooperate, emotional balance, etc. [152, p. 5].

Developing skills that contribute to effective professional activity is an essential psychological and pedagogical problem in ensuring the quality of AS's professional training.

Many researchers, including B. Ananiev [32], O. Leont'ev [73], B. Teplov [132], L. Rubinstein [116], V. Shadrykov [145], U. Thorndike [140], C. Spearman, V. Stern [112] and others proved that AS's pedagogical skills influenced the effectiveness (*quality - the author's note*) of its professional activity.

Mainly, scientists understand skills as individual psychological properties of a person that distinguish it from others and contribute to the rapid and effective formation of professional competency. However, individual skills manifested, according to V. Shadrykov [145], as its functional characteristic.

At the same time, according to V. Krutetskyi and S. Rubinstein [138], each skill always manifests itself as operations or action methods to perform an activity.

Scientists classify skills in different ways. For instance, B. Teplov classifies them, taking the main types of activities as a basis [132]. On this basis, he divides skills into general (under general conditions of activity) and special (under specific requirements of individual types of training), which, in turn, are further divided into components.

Researcher V. Shadrykov [146], based on the traditional distribution of mental processes, classifies all skills as sensation (sensory processes), perception (perceptual processes), memory (mnemic processes), representation, imagination (creative processes), thinking (thinking processes), attention (attentional processes), and psychomotor.

As for the pedagogical skills, F. Honobolin distinguishes didactic, perceptual, expressive, personal, etc. [Cit. from 40, p. 108]. Researcher V. Druzhynin classifies skills as communicative, regulatory and cognitive, depending on the psyche's expressive, regulatory and cognitive functions (according to B. Lomov) [35, p. 14].

They all derive from knowledge, skills, abilities, and personal qualities. However, in our opinion, organizational and communication skills prevail in AS's

professional activity since management and interaction with applicants for higher education are basic.

According to O. Leont'ev [72], S. Rubinstein [116], S. Smirnov [125] and B. Teplov [133], the basis for developing personal abilities consists of knowledge, skills and abilities. Therefore, a scientific and pedagogical worker has the appropriate skills on the above grounds.

However, as practice shows, AS can have high pedagogical knowledge, skills, abilities, properties and qualities necessary for professional activity. However, they cannot use them in scientific and pedagogical activities for objective and subjective reasons.

In this case, it often turns out that such academic staff does not have the motivation for high-quality professional activities. Therefore, the next important psychological and pedagogical problem of AS's high-quality professional activity is to form and maintain an appropriate positive motivation (motivation to achieve success).

Researchers R. Bibrich [9] and S. Zaniuk [42] take motivation of behaviour and activity to mean a set of driving forces that encourage a person to perform certain actions. These forces bring the person to consciously or unconsciously perform appropriate actions.

Researcher B. Dodonov [34] defines motivation as a psychological factor of human activity that arises based on a person's feelings and thoughts and excites him to a particular action to satisfy his needs. Thus, a motive is an incentive for an activity related to satisfying the subject's needs.

According to the views of B. Lomov, human behaviour has a complex structure of needs with peculiar interrelations within a single vector of motive-goal [75]. Actually, goals are a force that encourages you to make appropriate efforts to achieve them, while the more specific the overall goal, the intermediate stages of its achievement, the more clearly defined the means of achieving the goal, the greater the strength of the motivating influence and the probability of achieving the goal. O. Leont'ev confirms this, pointing out that a person under the influence of a certain

motive begins to perform actions, and then – for their own sake, due to the fact that the motive has changed to the goal [72].

Researcher P. Jacobson talks about "motivation" in a narrower and broader sense. In the first case, this is "the motivation of specific forms of human behaviour, and in the second – a set of those psychological moments that determine the behaviour of a person as a whole" [Cit. from 126, p. 214].

By studying human problems, A. Maslow concluded, namely that: 1) needs are met in a specific order, and if there are two equally strong needs, then the need of the lowest level dominates; 2) with the development of a person as a person is constantly expanding, so the need for self-realization will never be fully met, hence, the process of motivating behaviour through needs is endless; 3) any behaviour shows a tendency to determine several or even all basic needs at the same time, and not just one; attracting as many needs as possible (actualizing a more significant number of motivating factors) increases the overall level of activity motivation [78].

A scientific and pedagogical worker's ability to implement a wide range of functions effectively is an important psychological and pedagogical problem of his high-quality professional activity, while, depending on the state of the educational process, the level of cognitive activity of higher education applicants, their motivation to master knowledge, skills, general and professional competencies, to highlight among them the main ones, those on which the quality of learning results of higher education applicants depends.

As for the essence and feasibility of using certain functions by a scientific and pedagogical worker in the educational process, then the views of researchers A. Barabanshchykov [7], P. Yesariev [37], I. Isaev [49], A. Markova [76], H. Matushanskyi [79] and others differ. From the functions of AS's professional activity in an institution of higher education, first, scientists distinguish pedagogical processes, which mainly include educational, informative, developing, orientation [37], educational [58], adaptive, corrective, compensatory, and self-educational [79].

At the same time, several works show a tendency to systematize them according to other characteristics. Thus, I. Zimnya [45] reduces all the functions of pedagogical activity into two groups according to the target, organizational and structural features. The first Group of goal setting functions includes orientation, mobilization, development, information, which correspond to the didactic abilities of a teacher; the second group of organizational and structural functions is constructive, communicative, organizational and gnostic.

Using other approaches, V. Semychenko [118] considers the functional composition of the pedagogical activity as terminal functions-goals, instrumental functions-means and operational functions-techniques. The content-target, organizational-procedural and operational-technological aspects make it possible to identify the integrity of AS's professional activity.

V. Semychenko points out that terminal functions or functions-goals [118] are related to strategic directions of educational activity and reflect its essential goals and objectives, distinguish not only the educational process but also the developmental and educational one, which covers ideological and cultural functions.

In turn, Instrumental, or functions-tools, contain a group of functional tasks, as a result of which the goals of educational activities turn into a natural process of interaction of a scientific and pedagogical worker with specific applicants for higher education in natural conditions of the educational process in a higher education institution. These functions include informational, illustrative, research, communication, diagnostic, motivational, stimulating, and predictive. They aim to stimulate higher education applicants' cognitive, educational and scientific activity.

Operational functions of AS's professional activity or functions-techniques include: Methodological, managerial, organizational, corrective and state functions. All of them are carefully described in the works of N. Kuzmina [66], V. Semychenko [118] and others.

The fundamental psychological and pedagogical problem of AS's high-quality professional activity is to ensure its positive (practical) professional orientation.

They can fulfil the tasks of the educational process only by interacting with applicants for higher education and other participants. Of course, an essential aspect of it is the establishment of business relations with them, as it helps direct them to high-quality mastery of skills and the formation of competencies. It is advisable to influence their actions, interpersonal relationships, relationships in groups, behaviour, resolve conflicts, and so on. The relationship between a research and teaching worker and a higher education applicant takes place on two planes - official and unofficial. Formal connections and relationships characterize official relations; simplicity, accessibility, freedom of expression, opinions and suggestions, and the ability to defend one's point of view, object, etc., are characteristic of informal ties. The peculiarities of these socio-psychological contacts depend on the dynamics of students' moods and cognitive activity.

The occupational orientation of a scientific and pedagogical worker reflects the relationship between academic staff and applicants for higher education. Some scientists equate their profession with his professional qualities [11; 32; 49; 106; 149] and others with purposeful behaviour.

Over the years, some scientific and pedagogical workers have experienced psychological and professional deformities. Therefore, there is a psychological and pedagogical problem. Academic staff must resolve it or ensure its high professional reliability during its activities in higher education institutions, which has not found proper scientific coverage. As a rule, the concept of "professional destruction", "professional deformation", "personality deformation", and "professional burnout" defines the problem indirectly.

The concept of professional deformation was introduced at the beginning of the XX century by famous sociologist P. Sorokin. Scientists prove that AS's professional deformation often occurs due to burnout syndrome. However, this syndrome is interpreted differently.

There are hundreds of scientific papers on burnout, as a psychological phenomenon, in both domestic and foreign science. This is a multifaceted phenomenon. Most often, scientists consider professional burnout a long-term stress

response that results from prolonged and moderate professional stress [155] and others.

Researcher V. Boiko talks about emotional burnout as a primary concept. He suggests considering the structure of burnout syndrome as such that it represents a sequence of three phases: 1) stress: experience of brain-turning circumstances, self-dissatisfaction, getting cornered, inquietude and depression; 2) resistances: inadequate choices of emotional response, emotional and moral disorientation, extension of emotional thriftiness, reduction of professional responsibilities; 3) burnout: emotional deficit, emotional detachment, personal detachment (depersonalization), and psychosomatic and psychovegetative disorders. The researcher found the following personal syndrome development factors of the emotional burnout: emotional coldness, intensive experiences of negative emotions in the professional activities, and weak motivations of emotional returns in the professional activity [12].

In his description, E. Maher (1983) expands the list of symptoms of "burnout" to include: 1) fatigue, fatigue, exhaustion; 2) psychosomatic malaise; 3) sleep disorders; 4) negative attitude towards other people; 5) negative attitude to their activities; 6) poor repertoire of work activities; 7) abuse of chemical agents (coffee, tobacco, alcohol, drugs, drugs); 8) overeating or lack of appetite; 9) negative self-conception; 10) aggressive feelings (irritability, anxiety, tension, anxiety, agitation, anger); 11) bad mood and related emotions: Cynicism, pessimism, hopelessness, apathy, depression, meaninglessness; 12) experiencing feelings of guilt [137].

In general, modern science knows three models of burnout. According to the first model, burnout– is a state of physical and mental exhaustion caused by prolonged exposure to emotionally overloaded situations.

The second model describes "burnout" as a two-dimensional construct consisting of emotional exhaustion and depersonalization manifested in a change in attitudes to yourself or others.

The third model of burnout syndrome belongs to the American researchers C. Maslach and S. Jackson. They take it to mean a syndrome of emotional

exhaustion, depersonalization and reduction of personal achievements. Emotional exhaustion is considered the main component of professional burnout and manifests in a decrease in the dynamic background, indifference or emotional oversaturation; depersonalization is a deformation of relationships with other people. This can be an increase in dependence on others or an increase in negativism, the appearance of cynical attitudes and feelings towards others. The reduction of personal achievements is manifested either in the tendency to a negative assessment of oneself, one's professional achievements and success, in the appearance of negativism to professional achievements and opportunities, or in the limitation of one's capabilities and responsibilities in relation to others [33].

The International Classification of Diseases (ICD-10) includes burnout syndrome. Its number is Z73.0 in the Classification Section of Problems Related To Difficulties In Overcoming Life Complications. According to the WHO definition (2001), "burnout syndrome is a physical, emotional or motivational exhaustion characterized by impaired productivity, fatigue, insomnia and decreased immunity, as well as the use of alcohol and other psychoactive substances to obtain temporary relief, which tends to develop physiological dependence and (in many cases) suicidal behaviour" [85].

According to researcher A. Chira, the main factor of emotional burnout is emotional exhaustion, and additional components are behaviour (copying stress), leading to depersonalization, or cognitive and emotional burnout, which expresses as a reduction of personal achievements (deformations of subjective self-ratings). However, that and other demonstrate the deformation of personality and have direct value for its social health [Cit. from 24].

In his dissertation research on the emotional burnout of lecturers of higher educational institutions, N. Chepelieva considers it "as a variant of maladaptation, which disrupts the contact with reality; at the direct psychological level, emotional burnout is a consequence of inadequate actions based on the use of templates and inadequate means of solving problems that inevitably arise in professional activities" [142, p. 65]. Depersonalization of scientific and pedagogical workers is manifested in

the deformation of their properties, qualities, relationships, feelings, attitudes, self-image, etc. The reduction of personal achievements – in the revision, reassessment, rethinking of their professional accomplishments and success, life values, attitudes, etc., based on which experienced and life values are deformed, motivation for professional activities, behaviour and relationships, the attitude to people, activities, their responsibilities, etc. changes. It can also be influenced in a certain way by psychological dependence, as indicated by O. Leshchynska [74].

The reduction of AS's professional achievements is also manifested as an experience of real or imaginary incompetency, failure in professional teaching activities, futility, and a sceptical attitude towards them.

The most damaging consequences of professional burnout include AS's disappointment with their professional "me", when they begin to doubt their professional competency, the correctness of the chosen profession, the practicality of their scientific and pedagogical activities, etc. On this basis, he develops an inadequately low professional self-esteem, the level of professional anxiety increases, professional development is distorted, and previously absent negative qualities appear.

Researchers have proven that the occurrence of AS's professional burnout is affected by a number of social factors, namely: Inconsistency of his personal characteristics with the specifics of scientific and pedagogical activity; non-recognition of his actual achievements, or those that the employee himself considers to be achievements; restriction of the right to freedom of choice (communication style, lifestyle, programs and methods of teaching the discipline, pedagogical and didactic technologies of educational influence, management of cognitive activity of students, their independent work, etc.); inconsistency of personal and ethical requirements for professional activities; conflicts with applicants for higher education; unhealthy moral and psychological climate in the teaching staff and HEIs; reduction of social status, including in moral, social and Material Terms; family and household problems; dissatisfaction with career; low pay for professional activities; the presence of formalism in the organization and implementation of the educational

process; dissatisfaction with the quality and results of their own professional activities, etc.

AS's professional burnout most likely results from a complex interaction of internal and external factors.

Thus, based on the analysis of works on various aspects of educational activities in higher education institutions, it is established that today the quality criteria for professional training of a scientific and pedagogical worker have not been directly formulated in science. Such criteria are disclosed indirectly: 1) in the broadest sense – through the interpretation of the quality of education and the quality of higher education; 2) in a broad sense through the requirements that are put forward for the professional activity of a teacher (scientific and pedagogical worker); 3) in a narrower sense in the theories of pedagogical culture, pedagogical skill, professional-pedagogical competency and pedagogical professionalism – through their components. However, the quality of professional activity of a scientific and pedagogical worker is not identical to the concepts of pedagogical skill, culture, competency, or abilities. In practice, the quality of AS's professional activity in higher education institutions of Ukraine is most often determined based on calculating their rating, based on a large number of parameters, the impact of which on the learning results of higher education applicants is indirect.

At the same time, the identified psychological and pedagogical problems of ensuring the quality of AS's professional activity in a higher education institution simultaneously serve as a theoretical and methodological basis for searching for and determining its (quality) criteria. These include the following problems: 1) constant maintenance in the scientific and pedagogical worker of a high level of primary (new) knowledge and skills, as well as general and professional competencies necessary to ensure all types of activities in the institution of higher education and the provision of quality educational services; 2) formation and implementation in the educational process of general and professional competencies, taking into account the constant change in knowledge, methods, technologies; 3) development in the scientific and pedagogical worker of a set of necessary personal qualities and abilities, their

practical implementation in the educational process; 4) formation and maintenance of motivation of the scientific and pedagogical worker to professional success and Prevention of the development of motivation to avoid failure; 5) formation of the scientific and pedagogical worker's ability to effectively implement a wide range of functions, especially management of educational activities of applicants for Higher Education; 6) ensuring positive (practical) professional orientation of the scientific and pedagogical worker; 7) ensuring psychological and pedagogical reliability of the scientific and pedagogical worker in order to prevent his professional burnout and deformation. Based on these psychological and pedagogical problems, the main criteria for the quality of AS's professional activity have been determined.

SECTION 2
PSYCHOLOGICAL AND PEDAGOGICAL MODEL OF THE QUALITY OF PROFESSIONAL ACTIVITY OF SCIENTIFIC AND PEDAGOGICAL WORKERS

2.1. Understanding the quality of professional activity of a scientific and pedagogical worker and general approaches to the development of a psychological and pedagogical model for its provision

Today, people are more likely to talk about the quality of higher education and the quality of educational services provided than about the quality of professional activities of AS. However, it is doubtful that the previous two may be possible without the latter.

The quality of professional activity of research and teaching staff is difficult to determine in practice. Therefore, to understand the quality of professional activity of research and teaching staff, we will first reveal the category of quality itself.

Scientists believe that for the first time, Aristotle turned to the category of quality in his works Metaphysics and Categories. He considered the quality of an object as its essence, that is, a predicate that answers the question What?. The answer assumed a variation of four possible contexts: 1) the presence or absence of Innate (initial, initial) abilities and characteristics; 2) the presence of both acquired and stable properties; 3) the presence of properties of the state of an object or phenomenon in the process of their existence; 4) the appearance of the object or phenomenon.

In the epistemological dimension, Hegel understands quality as the initial stage of knowledge of things, and in the ontological dimension as certainty, which is identical to the concept of being. At the same time, the scientist connects the concept of quality with the ideas of quantity and measure, formulating the law on the transition of quantity to quality. Considering the dialectical nature of quality, Hegel points out the possibility of measuring the essential certainty of an object through it.

Based on this, the category of quality philosophically expresses the essential certainty of the subject, so it exists in the form of just such and not another matter [91, p. 237].

The philosophical thought is as follows: "<...> There are not qualities, but things characterized by certain qualities, which are countless" [92, p. 33]. It follows that the essence of the concept of "quality" (in the plural) of one object practically corresponds, that is, it is identical to the idea of "property"."

There is another one more important point: In the theory of Quality Management, the concept of process is used, not the idea of activity. The quality of processes in a particular system depends on their properties. Consequently, the study of the quality of professional activity of scientific and pedagogical workers is associated with identifying the properties of various components of this activity, which reproduce its essential features. The current properties derive from the methods and content of the activity. Its effectiveness is such a property of the quality of AS's professional activity, which changes, depending on the content, methods and goal, etc.

Based on the fact that the professional activity of research and teaching staff is a functional system, its quality is described using adjective determinants [131]. Its subsystems are also described. But the quality of system functioning is determined by some integrative properties. Since the effectiveness of AS's activity determines the quality of processes in their professional activity system, it should be adequate. Therefore, the effectiveness is an integrated property of AS's professional activity quality.

Since AS's professional activity is a continuous and complex process, with many unknowns, in which their knowledge, skills, competencies, professional abilities, personal qualities, as well as various psychological determinants, etc. are intertwined and integrated, its final result depends on the properties that determine the effectiveness of this process.

Therefore, AS's effectiveness is the core of their professional activity. In other words, the quality of professional activity of a research and teaching worker directly depends on its effectiveness. In principle, the Unabridged Explanatory Dictionary of

the Modern Ukrainian Language interprets the word "quality" as: "<...> The degree of cost, value, or suitability of something for its intended use. 3. This or that characteristic feature, property, trait of someone, something. 4. A set of product or service characteristics regarding its ability to meet established and envisaged needs. <...>" [19, p. 1423]. The word "effective" means such a functional state, "1. which leads to the desired results and consequences producing the most significant effect (in mean. 2). 2. which causes an effect (in mean. 1)" [19, p. 358].

The high-quality professional activity of a scientific and pedagogical worker at the practical level should manifest itself as 1) effectively managed by them the process of transfer-Mastering by applicants for higher education professional knowledge, skills and abilities, an effective process of forming their general and professional competencies; 2) the process of effective psychological and pedagogical interaction with applicants for higher education and other participants in the educational process; 3) the process of effective acquisition of the latest professional knowledge through scientific activities and their practical (effective) implementation in the educational process; 4) an effective strategy of formation by applicants higher education qualities necessary for professional activity and public life.

Therefore, the quality of AS's professional activity is a derivative of its effectiveness, expediently directed in content, educational functions and tasks of its controlled, motivated, emotionally positive, effective psychological and pedagogical interaction with applicants for higher education, the full implementation of their knowledge, skills, general and professional competencies, abilities, personal properties and qualities.

To develop a psychological and pedagogical model for ensuring the quality of professional activity of a scientific and pedagogical worker, first of all, we will clarify what the term model means, which is quite widely used both in the scientific literature and in various fields of activity.

Most dictionaries contain the following meaning of this term: "**Model** (Ukr. *модель*, Ger. *Modell*, Fr. *modèle*, Lat. *modulus* − measure, analogue, sample, example) means a reproduction or reflection of an object, design

(constructions), description or calculations that reflect, imitate, reproduce the principles of internal organization or functioning, specific properties, signs or/and characteristics of the object of research or reproduction (original).

The Abridged Dictionary of Logic explains that "model" (from Lat. *modulus* - measure, sample) in a broad sense means a specially created or specially selected object that reproduces the characteristics of an object under study [62, p. 112].

In the broadest sense, the concept of model means a specific image of an object (in particular, conditional or imaginary) that interests the subject, or, conversely, the prototype of a particular object or a specific system of things.

Often a model is understood as a description of an object (object, phenomenon, or process) in any formalized language designed to study its properties. It can also be a model of processes, phenomena (experiment) for studying their reproducibility or analysing their components, etc.

According to A. Katrenko, a model is a means of understanding reality, which allows us to organize and formalize in a certain way the primary vague or even contradictory ideas about a particular phenomenon, object, or system [50, p. 82].

For scientist A. Uiemov, a model is a system, the study of which allows obtaining information about another system [134, p. 48].

In general, models can be:

– fully or mainly descriptive in terms of content;

– structural by their composition and hierarchy of components;

– functional or functional and dynamic by the nature of connections and means in the capacity of a system;

– heuristic by the possibility to establish new relationships and identify new dependencies;

– integrated according to the principles of displaying other models in an existing model.

Models help to identify the essential features of an original object and optimize or improve the activity of the object under study. All this, according to V. Zagviazinsky can be implemented when identifying existing trends, analysing

experience, extrapolating trends for the future, and conceptual interpreting existing factors [40, p. 46].

Pedagogy equates modelling with a theoretical method that clarifies, expands and systematizes scientific facts, reveals and predicts certain phenomena, and moves from abstract to concrete knowledge. It also establishes relationships between various concepts and hypotheses, identifying the most significant and secondary of them using their actual or ideal models [64, p. 12].

At the same time, V. Sidorenko points out that pedagogical modelling makes it possible to identify the characteristic features of theoretical thinking to perform cognitive tasks and solve individual practical problems [121, p. 132].

However, most pedagogy researchers take modelling as a process of scientific knowledge. For example, a pedagogical encyclopaedia considers modelling as a method of studying objects on their models, that is, analogues of specific fragments of natural or social reality, as well as the construction and study of models of objects, phenomena or constructed objects that exist in fact [103, p. 146].

According to V. Zagviazinsky, modelling is one of the procedures of a teacher's research activity related to pedagogical design. Proper modelling aims to create a model of the initial state of a process or an object that needs to be changed and a model of a desired shape of the object at the end of a planned period [40, p. 45].

Researcher L. Semushina draws attention to the fact that modelling is one of the ways to improve the professional training of higher school specialists. In her opinion, the components, content and sequence of providing students with appropriate tasks, exercises, situations, and the direction of their activities are the material expressions of a teacher's professional training model or its respective sides. This allows them to cover all types of their future professional activities [119, p. 25].

Pedagogy has developed various models, including models of a specialist, professional activity, professional training, and so on.

For example, O. Serdiukova developed a structural and functional model of pedagogical competency of future engineers-teachers in the educational process of higher education institutions [120]. This model consists of three interconnected

blocks: 1) Orientation and target, which provides for "a clear definition of the goals and objectives of AS's activities regarding the psychological and educational training of future engineers-teachers, as well as conducting a preliminary diagnosis of students' pedagogical competency" [120, p. 117]; cognitive and procedural, which "provides an integral pedagogical process that ensures to build the competency of future engineers-teachers..." [120, p. 126]; control and evaluation, which "provides control, analysis and correction of experimental work and the results obtained" [120, p. 131].

Based on the above theoretical aspects of modelling, we consider it possible to develop a psychological and pedagogical model for ensuring the quality of AS's professional activity. It must meet the following requirements:

1) content, that is, the model must reflect the essential properties and features of the actual process of professional training and professional activity of a scientific and pedagogical worker in a higher education institution;

2) compliance, that is, to meet the tasks that scientific and pedagogical workers solve during their professional activity to achieve the goal of the educational process in the modern information society;

3) consistency, that is, to reproduce a specific system of obtaining the necessary knowledge, skills, abilities, and general and professional competencies by a scientific and pedagogical employee, taking into account the constant change of knowledge, the development of information technologies, as well as the formation of personal properties and qualities and the prevention of their destruction;

4) inductance, that is, taking into account the fact that the quality of AS's professional activity results from individual knowledge, skills, abilities, general and professional competencies, personal properties and qualities - effective management of the educational process of higher education applicants, effective interaction with them, achieving high results in the educational process, etc.;

5) deduction, that is, the ability to analyse the components of the quality of AS's professional activity based on the results of the educational process and their professional activities;

6) synergy, that is, providing that all components of the model function correctly to obtain the desired final result – a high level of quality of AS's professional activity;

7) adjustments, that is, the possibility of changing the components that ensure the quality of AS's professional activity and their periodic adjustment;

8) predictability, that is, to provide an opportunity to predict the final result – the level of quality of AS's professional activity;

9) measurability, that is, the ability to assess the quality of AS's professional activity;

10) adequacy, that is, to reflect the available professional knowledge, skills, abilities, competencies, qualities, and orientation, the chosen style of managing the educational process of applicants for higher education, motivation, and reliability. Those mentioned above compose, in general, the quality of AS's professional training, which is the basis for correcting and predicting the occurring processes.

According to the structural and functional nature of the psychological and pedagogical model ensuring the quality of AS's professional activity is a system of psychological and pedagogical elements (blocks) with given characteristics and properties, in a certain way coordinated in content, time and purpose, reproducing the directed professional activity of a scientific and pedagogical worker and its organization in the process of interaction with applicants for higher education to form their knowledge, skills, abilities, general and professional competencies and unique qualities.

In the procedural and conceptual context, a psychological and pedagogical model of ensuring the quality of AS's professional activity is a description of the process of providing and maintaining their highly developed professional knowledge, skills, abilities, general and professional competencies, personal qualities and properties, orientation, motivation and reliability. This model, in turn, consists of various blocks (elements, subsystems).

As a system, the psychological and pedagogical model of ensuring the quality of AS's professional activity consists of a specific set of relatively independent

subsystems, which function according to their laws. For example, these separate subsystems are acquiring and maintaining AS's professional knowledge, skills, abilities, and general and professional competencies; developing professional capabilities and personal qualities; ensuring a positive professional orientation; acquiring skills for effective management of the educational process of applicants for higher education; motivation for practical professional activities; ensuring professional reliability, etc. In practical terms, each such subsystem unfolds as a process that proceeds according to its laws. Still, together with other subsystems, despite their synergistic nature, models provide a certain level of AS's professional activity in the necessary functioning process.

This model reproduces the natural process of ensuring the quality of AS's professional activity to perform all tasks of the educational process. At the same time, it provides an opportunity to study the essential properties of the components that determine the level of development of professionalism and, in general, the quality of AS's professional activity.

2.2. Functioning of the psychological and pedagogical models, which ensure the quality of professional activity of a scientific and pedagogical worker

We believe that the solution to the problem of a high-quality level of AS's professional activity will serve as a psychological and pedagogical model for providing the quality. It reproduces the process of ensuring their effective professional activity, the pedagogical conditions when they achieve the effectiveness of this process, and the opportunity to evaluate the result of its functioning, that is, efficiency and quality.

The results of our research show that the psychological and pedagogical model of ensuring the quality of AS's professional activity includes the following interrelated functional blocks: 1) knowledge-competency-personal; 2) professional-motivational; 3) professional-managerial; 4) professional-orientational; 5) professional-constructive.

The first block of the model is the ***knowledge-competency-personal***, which provides a scientific and pedagogical worker with the necessary general and professional knowledge, constant acquisition of new ones, skills, competencies, abilities and personal qualities, and most importantly, their practical use in the educational process.

We will not describe what knowledge and skills AS should have since numerous works reveal them. We will just make a reference to the paper of O. Guri [30], which, as an option, groups and systematizes a scientific and pedagogical worker's fundamental knowledge and skills necessary to solve the tasks of the educational process.

However, the fact that an academic worker must master independently and constantly use new knowledge, advanced new (innovative) methods, technologies, etc., in the educational process complicates the problem of acquiring by the academic worker fundamental knowledge and skills, as well as general and professional competencies. Knowledge ages very quickly in the modern world, and the latest methods, technologies, etc., appear often. Based on this fact, academic workers cannot master them so quickly because they need: 1) to choose from an extensive array of information, comprehend, and conduct testing; 2) to develop their basis new lectures, practical and laboratory classes, practices, topics and guidelines for coursework (projects), etc.; 3) to change the appropriate programs and approve them.

Therefore, academic staff should be ready for a continuous process of mastering new knowledge independently and/or collectively (when an HEI organizes the acquisition of new knowledge in the form of seminars, conferences, symposia, etc.). Such readiness is the presence of skills to acquire new knowledge, motivation, and tools.

O. Ovcharuk correctly emphasizes that operating with their knowledge is an insufficient factor of professionalism. A specialist should "be ready to change and adapt to the new needs of the labour market, operate and manage information, actively act, quickly make decisions, and learn throughout life" [57, p. 7].

Based on professional knowledge and skills, a scientific and pedagogical worker develops general and professional competencies such as the ability to solve various problems during the educational process.

This definition of competency is based on the Definition and Selection Of Competencies: Theoretical and Conceptual Foundations program launched in European countries in 1997. Its main task was to systematize and generalize the results of ten-year research on the problems of competencies necessary for a specialist of modern society. Based on this program, experts define competency as "the ability to successfully meet individual and social needs, act and perform tasks" [63]. From these positions, competency consists of several competences. Each of them is built on a combination (variety, interweaving) of mutually appropriate cognitive connections and practical skills, values and behavioural components, knowledge and skills, emotions and will, in other words, everything that makes activity possible.

In general, experts of the European Foundation for Education (1997) describe competency as 1) the ability to perform something well and effectively; 2) the criterion of compliance with specific requirements when applying for a job; 3) the ability to perform special labour functions [27].

The UNESCO materials outline a set of competencies recognized as the result of Education. In this context, in the report of the International Commission on Education of the XXI cent. Education: Hidden Treasures, J. Delor identified four fundamental factors of today's education: to teach to learn, work, and live together and independently [31].

Realizing its competencies, a scientific and pedagogical worker must, according to V. Bidenko, ensure that applicants for higher education master a system of general (key) competencies, through which an individual carries out multifunctional and cultural activities, and branch (subject, professional) competencies formed throughout the entire educational process to perform future professional activities [5].

We support the position of O. Serdiukova, according to which "the essence of

personality competency as an integral scientific phenomenon, which manifests itself as an integrated characteristic of the individual and determines its readiness to use the acquired knowledge, skills, skills and acquired experience and personal qualities for the successful solution of various tasks in the process of life and professional sphere" [120].

AS's personal qualities are an essential component of the first block necessary to fulfil the tasks of the modern educational process.

Let us note that lecturers' personal qualities are often considered through the lens of their competency. Thus, the American model "of a competent employee", which was developed by D. Meridle, D. Jules and I. Stevick, identified such professionally essential qualities of a specialist as discipline, independence, sociability, and self-development. They draw special attention to such a quality as the ability of an individual to self-development, which, in their opinion, should ensure both a conscious process of forming professional skills, self-education and self-improvement and a motivated, purposeful free choice and the desire to achieve the desired level of professional competency [Cit. from 6, p. 15].

According to B. Hershunskyi, "professional competency is 1) functional literacy used and updated at the actual professional level; 2) includes some components attributed not so much to the subject content, but to the ambitious personal qualities - responsibility, creativity, curiosity, perseverance, the desire to acquire new knowledge and, of course, high morality, without which we cannot imagine a true professional" [26, p. 123].

All personal qualities of academic staff have a certain professional significance. Thus, for successful interaction with applicants for higher education, academic staff must be disciplined, purposeful, proactive, willing, and demanding of themselves and others. At the same time, such qualities are also crucial as self-control, the ability to slow down with quick reaction and resourcefulness, emotional tolerance, benevolence, empathy, empathy, etc. AS's observation, which helps them to get information about the individual characteristics of students, their attitude to learning, other students and academic staff, understanding the educational material,

about the relationship between them, mood, desire, the nature of their response to comments, evaluation (score) and the like are their necessary qualities.

In general, academic staff must:

- have perfect command of the language, which ensures the logical and clear presentation of educational material, persuasiveness, influence, and the ability to evoke positive feelings in students;

- be humane, friendly, tolerant, emotionally stable, emotionally attractive, balanced, accessible to higher education applicants, persistent, disciplined, responsible, decent, moderately moral, fair,

- think pedagogically, that is, apply the theoretical provisions of Philosophy, Psychology, pedagogy, and methods in specific pedagogical situations of the educational process;

- be an optimist because optimism positively affects the effectiveness of students' learning activities, and their upbringing, causing them positive emotions, passion for business, and so on;

- have a sense of delicacy, which resides in the ability to treat students and their problems tactically, balanced, tolerant, with respect and understanding, in no case show his disrespect, indifference, hostility, superiority, etc., by his behaviour.

This block also includes organizational and communication skills.

Researchers L. Podoliak and V. Yurchenko prove that "a higher school teacher's organizational skill is one of the components of the professionalism <...> " [108, p. 129]. Developing the idea, they explain that "in the "Personality-Personality" system managing means a manager's implementation of constructive, regulatory, communicative and evaluative-corrective functions that effectively influence people to guarantee the performance of tasks of joint activities. Motivated relationships are the essence of such team activity to successfully solve educational tasks" [108, p. 134].

AS's organizational and communication abilities are leading since they are most necessary in the educational process. In a practical context, almost all other skills are integrated into them.

As known, any abilities are individual psychological characteristics that contribute to successfully implementing any activity. They indeed depend on skills and abilities, but they are not limited to them. According to B. Teplov, abilities are formed in activity and manifest themselves in such dynamic characteristics as speed, depth, and strength of acquisition [132; 133]. Being an orchestrator, a scientific and pedagogical worker must have a set of organizational abilities necessary to fulfil the tasks of the educational process.

Academic staff should be able to organize the work of higher education applicants to study a specific subject. Such character traits as discipline, self-organization, energy, self-control, determination, integrity, demanding, logic, tact, etc., are essential for the organizational activity of academic staff. Along with these features, such features as simplicity, accessibility, naturalness in behaviour, friendliness, etc., are also important.

The effectiveness of AS's organizational activity is closely related to the level of development of their organizational abilities. Researcher O. Kovalev claims that organizational abilities are closely related to characterological personality traits, and communicative character traits – responsiveness, attentiveness to people and justice, in turn, are auxiliary properties of organizational abilities since, through their mediation, the individual understands other people and the features of communication with them [55].

From these positions, AS's organizational abilities manifest as their individual psychological properties, which help contact applicants for higher education, determine approaches and conditions, ways and means of achieving the most effective learning results, organize interaction, and determine the place and time of consultations, the appropriate use of information technologies, etc.

Thus, the organizational abilities of a scientific and pedagogical worker are his ability to organize his activities following the needs of the educational process, as well as the academic activities of higher education applicants, solve problems that arise, etc.

AS's organizational abilities also include flexibility, complex perception of problems of the educational process, observation, the ability to see the essential properties of a phenomenon and the trend of its transformation by sure signs, the ability to determine priorities, etc.

Based on the results of the study of L. Motoziuk, the structural elements of organizational abilities include: 1) a high level of individual character; 2) intelligence, which corresponds to a high and average level; 3) a high level of development of specific personality qualities (psychological influence, communicative competency, psychological insight, leadership propensity) [87].

The basis of AS's organizational abilities is their aptitude to organizational activities, as well as relevant knowledge and skills. In this case, the tendency to organizational activity is considered a property of an individual, which, on the one hand, characterizes its readiness for corporate actions and, on the other – reflects the willingness to take responsibility for the assigned task at the right time.

Thanks to their organizational skills, AS implements the function of planning, monitoring, adjusting and regulating relations with applicants for higher education, student groups, and their activities and actions.

Communication skills are essential for a scientific and pedagogical worker.

Many papers reveal different aspects of communication abilities.

According to I. Kulinich, communicative abilities are a complex multi-level personal education, a set of communicative characteristics of the individual, as well as its socio-perceptual and operational-technical knowledge and skills that ensure the regulation and flow of communication activities [68, p. 83].

Researcher O. Kidron understands communicative abilities to be the general ability associated with various substructures of the individual, manifested in the skills of the subject of communication to enter into social contacts, regulate interaction situations, and achieve a communicative goal in interpersonal relationships. The author believes that a person's ability to communicate in the most general form results from establishing social contact with other people, entering into different roles, and achieving mutual understanding in different interaction conditions and at varying

levels of information exchange. According to O. Kidron, there are four levels of personal communication abilities: 1) the basic level that reflects the communicative potential of a person and social and personal prerequisites for communication: communication tools, interaction orientation scheme, appearance, temperament, and individual status; 2) the lowest level, which is characterized by certain communication skills; 3) the average level, at which the ability to communicate is formed; 4) the highest level when forms of interaction adaptation are used and the orientation of behaviour is realized [Cit. from 65, p. 190].

Leadership researcher I. Ladanov explains that people with communicative abilities constantly need communicative and organizational activities and actively strive for them. They quickly navigate a new team, are proactive, often in an important matter or a difficult situation, make independent decisions, always defend their opinion and ensure to make this decision. Such people look for something that would meet their needs for communication and organizational activities. Having high communication skills, they quickly and with pleasure contact strangers, are pleasant interlocutors, and all people are friends for them [70, p. 186].

AS's communicative success manifests their communicative abilities. This success reflects the effectiveness of communication with applicants for higher education. We should note that scientists equate communicative success with communicative competency and social competency, social intelligence, social perceptual skills, social giftedness, leadership, etc. [3; 39].

Communication skills manifest under the condition of appropriate and successful use of verbal and nonverbal means of communication since words transmit pure information. Nonverbal channels transfer the attitude to the communication partner, the interlocutor's emotional state, etc. Based on the results of the study of Ph. Zimbardo and M. Leippe, nonverbal behaviour reveals the inner world of an individual, the mental content of communication and joint activities. People can quickly find ways to adapt to changing circumstances, while body language is less plastic [43, p. 88].

Hence, AS's communication abilities represent their ability to effectively communicate and interact with applicants for higher education, aimed at organizing and mastering their knowledge, skills, abilities and general and professional competencies.

They use business (official) and non-business (non-official) communication during their professional activity. In communication, According to A. Panfilov, the subject of business communication includes activity and business, and a communication partner is considered a significant person [100].

The main tasks of business communication of a research and teaching worker with applicants for higher education are to create an academic business atmosphere that provides productive cooperation, mutual understanding, and personal responsibility for participants in the educational process. The atmosphere determines a common goal and ways to achieve it, reporting for academic work performed, adequate principled assessment of learning outcomes, criticism and self-criticism, etc.

There are the following psychological and pedagogical conditions for effective business communication of an academic worker with applicants for higher education:

- ability to clearly outline the subject of a conversation, and bring it to interlocutors in an accessible and understandable way;
- ability to speak appropriately and be silent in time;
- ability to listen and understand the problems of higher education applicants;
- ability to be emotionally tolerant of all participants in communication;
- ability to decipher nonverbal means of communication and respond appropriately to them;
- ability to treat all participants in communication with kindness and impartiality, regardless of their likes and dislikes;
- knowledge and understanding of psychology of student age people;
- ability to adhere to formal role-based principles of interaction, taking into account subordination and business etiquette;

- ability to make comments and criticize in such a way as not to harm the honour and dignity of the higher education applicant's personality;
- ability to conduct a conversation in a clear and accessible language;
- ability not to interrupt the other person until they have fully expressed themselves;
- ability to create a favourable psychological atmosphere in the process of communication;
- ability to determine the motives and needs of higher education applicants;
- ability to use practical persuasion techniques during communication;
- ability to communicate with applicants for higher education based on compatibility and psychological partnership, in which the primary way of communication is to talk equal to equal.

There are three primary communicative forms of AS's business communication:

- monologue, in which he unilaterally transmits information to applicants for higher education – expresses thoughts, ideas, proves requirements, instructions, gives methodological instructions, explains learning material, and so on;
- dialogic, in which he and higher education applicants alternately exchange opinions, ideas, intentions, views, knowledge, etc.;
- polylogic, which implements multi-subject communication, aims to master the communicative initiative and effectively implement it in achieving their goals.

Thus, AS's business communication is a complex process resulting from their communication abilities, integrated into the ability to critically comprehend their communication experience, communication culture, worldview, knowledge of the psychology of communication and psychological age characteristics of higher education applicants, their attitude to learning, awareness of the educational process, the nature of its organization and course, etc.

We should note that no one can acquire communication skills once and forever. A scientific and pedagogical worker develops them during their professional activity, as social relations, information technologies, knowledge, human psychology, etc., expand and change.

If applicants for higher education see respect for themselves, they answer in kind to AS. Then academic workers can encourage them to show initiative in the educational process and take on responsibility.

A modern institution of higher education is a communication system constantly developing, responding to current changes in society and the global educational space. This system influences applicants for higher education to master their general and professional knowledge, skills, competencies, and form an adequate worldview personal and civic qualities, and prepare for public life.

Hence, the knowledge-competency-personal block includes the following components: 1) a set of knowledge, skills, competencies, necessary qualities and their practical implementation in the educational process; 2) administerial abilities; 3) communication skills.

The second block of the model is ***professional and motivational training***, which ensures AS's motivation for professional activity.

The presence of professional knowledge, skills, competencies and personal qualities in a scientific and pedagogical employee does not guarantee their practical implementation in the educational process. It is necessary that the research and teaching staff wants and strives to implement them in the educational process, that is, that they are motivated to practical professional activities. In their professional activity, academic employees lose motivation for their high-quality performance. The above often manifests as a lack of motivation to succeed in professional activities and the appearance of reason to avoid failure. That means preventing the risk of adverse results due to introducing something new, advanced, and previously not used in the educational process.

The motivational sphere of scientific and pedagogical workers significantly determines the quality of their professional activity since it encourages them to

consciously choose a particular type of behaviour determined by the complex action of external (stimuli) and internal (motives) factors [53].

Right M. Yaroshevskyi is, pointing out that motivation is an energy component of any activity: "No matter what actions a person begins, no matter how high the degree of their awareness and logical thoughtfulness, it can perform no external or internal act of behaviour without its motivation, and therefore energy supply" [Cit. for 111, p. 107].

A significant number of researchers, including O. Leont'ev [72], S. Rubinstein [116] and D. Uznadze [135] believe that motivation is an activity's central, system-forming factor.

Researchers L. Burlachuk [15] and K. Sudakov [93] divide motivating factors into two separate (relatively independent) classes: 1) needs and instincts as sources of activity; 2) motives as causes that determine the direction of behaviour or activity.

Various motives influence the effectiveness of AS's professional activity. According to L. Orban-Lembrick, the motivational sphere of a manager's responsible behaviour (*a scientific and pedagogical worker directs the educational process of applicants for higher education - Yu.M.*) includes the following groups of motives from the point of view of the hierarchy of needs: 1) pragmatic motives (attempts to consider their behaviour, managerial actions through the prism of benefits, first for themselves; it is manifested in the satisfaction of their own needs); 2) social motives (since the work of a manager is one of the most responsible in society, many managers strive to act responsibly, taking care of the consequences of their actions for society, try to benefit the state by behaviour, deeds); 3) motives of self-knowledge, self-development, introspection, self-regulation, self-realization (due to the need to realize in a specific common cause their managerial capabilities and abilities related to the need to know self-assessment of their strength and skills); 4) motives of moral self-affirmation (due to the desire to establish themselves in the status of a leader as a moral person); 5) legal motives (a view of their managerial activity and responsibility from the standpoint of the law); 6) motives of communication and interaction (they are one of the prerequisites for joint managerial

activity); 7) motives of selfish self-affirmation (caused by an attempt to attract attention, demonstrate their superiority over others); 8) motives related to the specific features of a manager's personality (dependence of managers on their higher management apparatus, which imposes its own solution management problems; attempts to avoid criticism, punishment, condemnation, etc.) [96].

The above also applies to scientific and pedagogical workers since social and pragmatic motives dominated the structure of their motivation. Thus, this shows that AS acts responsibly when they simultaneously meet their needs and the needs of society. Scientist E. Iliin calls this phenomenon the motivational-purposeful resonance. "Motivational-purposeful resonance is the coincidence of personal goals and motives with socially valuable motives" [48, p. 344].

In our opinion, the following two types of motivation also characterize AS's professional activity: 1) individual motivation; 2) joint (group) motivation [29].

Motivating factors are decisive when students and AS feel responsible for achieving the goal and its results. The more responsible participants in pedagogical interaction feel for the consequences of their activities, the more motivated their actions are.

The motivation to achieve success is Important for the effectiveness of AS's professional activity, which, according to G. Murray, expresses the need to overcome obstacles, achieve high performance in activities, constant self-improvement, compete with others and stay ahead to realize their abilities and thus increase self-esteem [Cit. from 77].

Motivation to achieve success lies in the desire to move forward and improve someone's results, look for new ways to achieve the goal, not be satisfied with the achievements, etc. Thus, V. Kovalev points out that there is a close relationship between the level of achievement motivation and success in life [54]. Those academic workers who have a high level of this motivation look for ways and means to achieve their goals. They are confident in a successful result, use new ideas, act decisively in uncertain situations, do not get lost, and boldly overcome obstacles.

Leading in the process of AS's professional activity, motivation to achieve

success ensures the development of their ability to solve new pedagogical tasks and problems in the educational process quickly and creatively. The lack of a pronounced desire for success, improvement, and infavoidance needs can lead to AS's professional crisis. Still, it negatively affects the quality of their professional activities.

Hence, the professional and motivational block of the quality of AS's professional activity includes such components as: 1) motivation to achieve success; 2) lack of motivation to avoid failure, which is antithetic to infavoidance needs.

The third block of the model is ***the professional-managerial module***, which ensures AS's practical management of higher education applicants' educational process.

Psychological and pedagogical aspects of managing the educational activities of higher education applicants by research and teaching staff were considered by researchers of Pedagogical Psychology and Pedagogy of Higher School A. Aleksiuk [1], Yu. Babanskyi [4], O. Vlasova [22], I. Zaziun [104], V. Yakunin [151], and others.

One can understand the psychological essence of managing the educational process of a scientific and pedagogical worker as a type of activity based on the research of B. Lomov. He noted that "psychology precisely considered that aspect of activity associated with the study of various forms, types and levels of subjective reflection of objective reality by an active person. When studying activity, the person is primarily interested in motives, goal formation, will, emotions, etc., which are specific forms of subjective reflection of social relations. It also studies the role, functions and dynamics of sensory, perceptual, mnemic and other mental processes involved in actual human activity" [75, p. 205]. Emphasizing the universality of the structure of any activity, B. Lomov identifies the following main functional blocks: motives, goals, planning, processing of information, operational image or conceptual model, decision-making, actions, checking the results of efforts and their correction [75, p. 216].

In general, AS's professional activity is multifunctional in a higher education

institution since they simultaneously implement many functions in the educational process. It would seem that these functions are independent. Still, a thorough analysis of the educational process in the modern information world shows that the leading, or instead, its primary role is managerial. The educational process includes all other functions through its lens.

Thus, according to A. Aleksiuk [1], managing the educational process of applicants for higher education is the subject of the pedagogical activity, including their professional development in an institution of higher education. However, even earlier, Russian researcher V. Yakunin considers the entire process of education from the perspective of a systematic approach and management theory [151, p. 19-52].

As for the managerial function, some papers quite correctly note that a scientific and pedagogical worker "should not teach, but direct learning" [102, p. 232].

We fully support the position of researchers who claim that the management function is the main one in AS's professional activity because, in the presence of a large amount of knowledge (information), which is constantly expanding, changing and updating, they should organize the educational process so that applicants for higher education, first, learn to choose the most effective of them to solve specific problems; second, was ready to learn all their life and creatively solve any task. After all, there are many ways to solve the same task, including extraordinary ones.

Ukrainian researchers L. Podoliak and V. Yurchenko explicitly states that "a student is the object of a teacher's management since the latter's activities aim to modify the personality of the future specialist" [108, p. 130]. "The management function is a role that a manager performs at a certain stage of management in accordance with the goal set" [108, p. 134]. The main functions of educational process management include: 1) projective function, that is, defining the goals and objectives of training; 2) constructive function, that is, developing tools (methods, techniques, etc.) to ensure the educational process; 3) organizational and regulatory functions, that is, practical organization of the educational process; 4) communicative function; 5) evaluation and Correction function [108, p. 132]. In their opinion, the

actual "management" supports or changes the mode of operation of the reality of programs and the purpose of the system. If education develops as a system, then management functions also change depending on the strategy of training and upbringing, each of which acquires a particular content character. The authors explain: "Depending on the strategy of teaching students, the implementation of each of the functions of pedagogical management has its specifics, based on which it is possible to define different management models: *Model 1* is autocratic, direct and brutal (in the past); *Model 2* is democratic, indirect and humanistic" [108, p. 132]. Thus, from their point of view, "the teacher's activity in managing the student's educational and professional activities is to provide motivation, content and operational aspects. The importance of such management lies in that adequately organized activities lead to development (there is a professionalization of the future specialist's personality, the disclosure of his creative opportunities to achieve optimal results, provided that the student is active)" [108, p. 133].

Showing "lines of research movement on the problems of learning psychology", the authors of the textbook "Age and Educational Psychology" concluded that they were "grouped on two characteristics: first, they take learning to mean managing the learning process, and second, identifying the possibilities of cognitive activity of students, forming skills to "acquire" knowledge independently" [20, p. 316-317].

Researchers A. Nisimchuk, O. Padalka and O. Shpak point out directly that pedagogical activity "aims to manage and conduct educational activities of students <...>" [90, p. 53].

Many researchers consider management as a process (series) of continuous, interrelated actions that ensure the success of the functioning of any organization. The totality of these actions is called managerial functions [82 and others].

AS's intuitive skills are essential for assessing the effectiveness of managerial influence on higher education applicants. Reflexive skills comprise analysing and evaluating one's professional activity, personal qualities, actions, and how students perceive and evaluate them.

Organisational psychology is the foundation for studying the psychological aspects of managing the educational activities of higher education applicants by research and teaching staff. This type is "a branch of psychology that studies the psychological patterns of managerial activity" [96, p. 10], as well as management psychology. Thus, the paper under the editorship of G. Nikiforov notes that "organisational psychological phenomena are the subject of management psychology." According to the author, the subject matter of management psychology includes socio-psychological phenomena; questions of labour psychology (analysis of labour activity); functional mental states, etc.; questions of general psychology (theory of personality activity, development and other directions) [113, p. 12].

With the help of effective management, academic workers direct and activate the cognitive activity of higher education applicants, reduce the impact of destabilizing factors, and optimize the educational environment to prepare them for professional activities and public life. However, implementing such management is possible, subject to an adequate psychological background.

Scientist M. Naydonov assigns an essential role to "reflexive management", which "functions as specialised management and includes a subsystem of management of the reflexive process of established subjects and subjects that are at completion <...>" [88, p. 295].

Let us pay attention to the fact that the main idea of the Bologna Process is also based on the centrality of the management function, which is that applicants for higher education should acquire knowledge themselves. The task of a scientific and pedagogical worker is to manage these processes, behaviours and motivations.

Psychological and pedagogical influences, interaction, control and evaluation reflect academic workers and higher education applicants. In this way, AS manages the reflexive process in the continuum of an individual-group subject. We are talking about personal and group reflection. Interaction, mutual coordination and understanding during educational activities are carried out through intellectual and personal reflection of both students and academic workers.

The possibility of personal, group, intersubjective, content and intellectual

reflection in solving content-semantic pedagogical tasks and comparing the results with an existing model allows academic workers to rethink the forms, methods and means of managerial influence. On the other hand, it provides a meaningful and semantic analysis of the educational process.

The management style of a research and teaching worker in the educational activities of higher education applicants can be autocratic, democratic, or liberal-indulgent, which are pretty fully presented and characterized in the works of R. Boitsa [13], L. Makarova [76], V. Merlin [81], and others. However, there is no style found in its pure form. As a rule, there is a combination of different types with the dominance of one. For example, modern researchers prove that there are situations when only the autocratic style can be most productive and adequate [46].

We have revealed that the practicality of combining the autocratic and democratic management styles with a scientific and pedagogical employee determines the quality of management of the educational process of students.

Scientific and pedagogical employees motivate applicants for higher education to the educational activity. They should listen to their opinion, support their right to their position, encourage training, and initiative, discuss the idea, methods and courses for mastering their knowledge, the formation of professional competencies, and so on. Therefore, AS applies a democratic management style, characterized by a cheerful and emotional atmosphere of interaction, trust, benevolence, demands and respect, considering the student's personality. The main modes of address are advice, recommendation, request, opinion, view, and idea. This leadership style can be expressed as follows: we plan, organize, and analyse together what we have achieved. This style forms a positive attitude of students toward their academic staff.

However, when an applicant of higher education does not make efforts to perform specific pedagogical tasks, for example, formally refers to writing a course work instead of independent work downloading it from the Internet. It is advisable for academic workers, in this case, to apply the autocratic management style, forcing the applicant of higher education to write the course work again independently.

Justice, respect for applicants for higher education, care for them, considering

their opinions, putting forward their demands in the form of proposals, advice, requests, and so on are an academic worker's main positive characteristics of the democratic management style.

The laissez-faire (passive) management style provides that an academic worker gives free rein to applicants for higher education in choosing the forms and methods of teaching and performing educational tasks and avoids communication and interaction with them. Or vice versa, the worker talks a lot; however, in general, does not initiate new activities, shows an undemanding and uncontrolled performance of educational tasks, does not uphold promises, etc. [29].

For high-quality professional activity, AS must skillfully combine the autocratic and democratic management styles, avoiding the passive (laissez-faire) one and carry out scientifically based management of the educational process, development (self-development) and professional training of higher education applicants.

An effective individual management style indicates the quality of AS's professional activity. A. Petrovskyi and M. Yaroshevskyi take the style to mean a stable individual-specific system of psychological means, techniques, and methods of performing a particular activity [114].

Thus, the professional management module includes the following components: 1) the autocratic management style of the educational process of higher education applicants; 2) the democratic management style of the educational process of applicants for higher education; 3) the absence of the passive management style of the educational process of higher education applicants, which is antithetic to the passive management style;

The fourth block of the model is ***the professional-orientational module***, which ensures a positive professional orientation of an academic worker.

We believe that the professional orientation of academic workers derives from their behaviour and relationships with applicants for higher education, which in general is an active link in their organizational functional and procedural system.

From such positions, AS's professional orientation is revealed in the papers of R. Blake [10], K. Manfred [51], V. Ortynskyi [97; 98] and others. Although they also use the term pedagogical orientation, for example, according to V. Ortynskyi "is manifested in the direction of thoughts and aspirations for teaching and educating students, in the manner of talking, interacting, etc.<...>" [97, p. 440].

The professional orientation of a person depends on the direction of his psyche. Researcher V. Moskalets emphasizes that "the social nature of an individual consists of its knowledge, skills and formations, which belongs to the sphere of its psyche" [86, p. 22].

In our opinion, this only complements the content of AS's professional orientation since it results from their motivated, purposeful behaviour, which is an activity to achieve a practical result in these conditions [51, p. 142].

Foreign researchers A. Newell and H. Simon relegate the following to the main criteria for purposeful behaviour: 1) defined sub-goals; 2) means of achieving sub-goals and objectives; 3) avoiding repetition; 4) saturation. If the system reaches the desired state or is close to it, it completes its functioning based on the goal achieved [Cit. from 10].

In our opinion, there are three vectors of AS's activity to express the quality of their professional orientation: The first vector is "self-orientation", the second is "formal interaction orientation", and the third is "matter orientation".

AS’s self-orientation focuses on solving their problems to a greater extent, regardless of the issues of the educational process.

AS's formal attitude to their duties and imitation of academic activity characterize their "formal interaction orientation". On the one hand, such a lecturer aims to please applicants for higher education, and on the other – to avoid complaints and criticism for its fruitless activities. Therefore, such academic worker tries to avoid conflicts not to conflict with applicants for higher education in every possible way. The worker does not criticize them, even for serious shortcomings. Therefore, he compromises the principles and posts high grades to applicants for higher

education. However, at the same time, he does not delve into their affairs and problems, does not control their performance of educational tasks, and so on.

The matter orientation is a positive vector of professional orientation, which significantly affects the quality of the educational process. It focuses on the educational process, on studying and solving problems of higher education applicants and providing them with practical assistance on various issues. Such a teacher shows integrity and demands on applicants for higher education, always tries to improve the conditions of the educational process, introduces new forms, methods, pedagogical and information technologies, and so on.

Thus, the professional orientation block includes the following main components: 1) absence of the self-orientation, which is antithetic to the self-orientation; 2) absence of the formal interaction orientation, which is antithetic to the formal interaction orientation; 3) the matter orientation.

The fifth block of the model is ***the professional-constructive module,*** which ensures the professional reliability of an academic worker.

Various subjective and objective factors have influenced AS's professional activity for years, which can worsen its quality. When the quality of AS's professional activity remains high for a long time, then it is appropriate to talk about their ***psychological and educational professional reliability***. Scientists often take this reliability to mean the constancy of their professional competencies, personal qualities and abilities to build continually the most appropriate relationships with applicants for higher education, implement the most effective style of managing the educational process, constantly acquire the most up-to-date advanced knowledge and use it in the educational process, etc.

AS's psychological and pedagogical professional reliability includes: 1) professional and cognitive reliability; 2) professional and volitional reliability; 3) professional and emotional reliability; 4) personalization; 5) significance of personal achievements.

Thus, ***AS's professional and cognitive reliability represents*** a stable intellectual ability to the high-quality solution of educational tasks, creativity and

efficiency of thinking, scholarly activity and creativity; ***the professional and volitional reliability*** represents a high level of deliberate stability, discipline, self-organization, purposefulness and perseverance in achieving high results in scientific and pedagogical activities; ***the professional and emotional reliability*** is to generate positive emotions, be emotionally sensitive to applicants for higher education, emotionally stable and tolerant in the process of pedagogical interaction with them; ***personalization*** (lat. Persona – personality) - the need for the manifestation of one's personality, awareness of one's personality as socially significant, which results in his active educational activity aimed at transmitting his personality to others; ***the significance of personal achievements*** - value attitude to the results of their professional activity, recognition of their importance and significance.

The psychological and pedagogical professional reliability of a scientific and pedagogical worker is inverse to his ***psychological and pedagogical occupational deformation,*** which develops based on professional burnout, by which we mean loss of their professional ability to solve educational problems in a high-quality way due to destruction or ageing of the previous system of knowledge, skills and competencies, distortion of professional and personal skills qualities and properties, loss of professional motivation to achieve success based on cognitive, volitional and emotional burnout, depersonalization and reduction of personal achievements.

Thus, the basis of psychological and pedagogical professional deformation of a scientific and pedagogical worker is his professional burnout, which includes: 1) professional and cognitive burnout; 2) professional and volitional burnout; 3) professional and emotional burnout; 4) depersonalization; 5) reduction of personal achievements.

The professional and cognitive burnout of a scientific and pedagogical worker is: a gradual loss of intellectual activity, creativity and efficiency of thinking in procedural terms; an intellectual passivity, rigidity and template thinking, and lack of novelty and originality at the practical level.

The professional and volitional burnout reflects: a gradual loss of will to educational, scientific, methodological, educational and organizational activities,

solving versatile tasks of the educational process in procedural terms; an inability to show perseverance, consistency and firmness in implementing the functions of the educational process at the practical level.

AS's professional and emotional burnout lays in a gradual decrease in positive emotions from the professional activity and its results up to their complete disappearance; a full or partial absence of positive emotions – indifference, emotional coldness, emotional detachment from the professional training and its consequences at the practical level.

In her dissertation research on the emotional burnout of lecturers of higher educational institutions, Researcher N. Chepelieva defines burnout as "a variant of maladaptation resulting in a disrupted reality; at the direct psychological level, an emotional burnout is a consequence of inadequate actions resulting from templates and inadequate means of solving problems that inevitably arise during professional activity" [142, p. 65].

AS's depersonalization is no need for self-actualization, indifference to their perception by others, including their professional and business qualities; deformation of relations with applicants for higher education and colleagues, and so on.

AS's reduction of professional achievements manifests itself as a trend: 1) a reassessment of their professional achievements and sceptical attitude to them; 2) an awareness of the actual or imaginary incompetency, failure in professional teaching activities, and futility.

There is an inversely proportional relationship between the psychological and pedagogical professional reliability of a scientific and pedagogical worker and his professional burnout (psychological and pedagogical occupational deformation) (Table. 2.1).

Therefore, the psychological and pedagogical professional reliability of a scientific and pedagogical worker forms an inversely proportional dependence on his psychological and pedagogical professional deformation. It, in turn, results from professional burnout, reflecting professional-cognitive, professional-volitional and

professional-emotional burnout, depersonalization and reduction of personal achievements.

Table 2.1

The inversely proportional relationship between psychological and pedagogical professional reliability and professional burnout of a scientific and pedagogical worker

Components of AS's psychological and pedagogical professional reliability	Components of AS's psychological and pedagogical occupational deformation
Professional and cognitive reliability	Professional and cognitive burnout
Professional and volitional reliability	Professional and volitional burnout
Professional and emotional reliability	Professional and emotional burnout
Personalization	Depersonalization
Significance of personal achievements	Reduction of personal achievements

Therefore the professional-constructive module of the quality of AS's professional activity reflects the presence of the following components: 1) professional and cognitive reliability, which has an inversely proportional dependence on professional and cognitive burnout; 2) professional and volitional reliability, which has an inversely proportional dependence on professional and volitional burnout; 3) professional-emotional reliability, which has an inversely proportional dependence on professional and emotional burnout; 4) personalization, which has an inversely proportional dependence on depersonalization; 5) significance of personal achievements, which has an inversely proportional dependence on reduction of personal achievements.

Thus, the quality of AS's professional activity is an integrated indicator of its effectiveness. Based on this, the psychological and pedagogical model of ensuring the quality of AS's professional activity is developed and justified, which reproduces both the process of providing his practical professional training, and psychological

and pedagogical components, with the help of which the effectiveness of this process is achieved and the possibility of evaluating the result of its functioning.

According to the structural and functional nature of the psychological and pedagogical model, ensuring the quality of professional activity of a scientific and pedagogical worker is a system of psychological and pedagogical components (elements, blocks) with given characteristics and properties, in a certain way coordinated in content, time and purpose, the functioning of which reproduces the process of directed professional activity of a scientific and pedagogical worker and his organization in the course of interaction with applicants for higher education to form their knowledge, skills, abilities, general and professional competencies and personal qualities.

The psychological and pedagogical model of ensuring the quality of AS's professional activity includes the following interrelated functional blocks: 1) the knowledge-competency-personal module, which maintains the academic staff's knowledge, skills, competencies, personal qualities and reputation at a proper level; 2) the professional-motivational module, which motivates to achieve success in professional activities; 3) the professional-managerial module, which effectively manages the higher education process; 4) the professional-orientational module, which ensures its positive professional orientation; 5) the professional-constructive module, which shapes its psychological and pedagogical reputation, as well as prevents occupational hazards. Each block is a relatively independent model subsystem, which functionally unfolds as a kind of process that proceeds according to its laws. However, the model provides a certain level of the quality of AS's professional activity and other subsystems based on their synergistic nature and the necessary function.

Based on the functioning of the knowledge-competency-personal, professional-motivational, professional-managerial, professional-orientational, and professional-constructive modules, there are sixteen components that ensure the quality of AS's professional activity: 1) knowledge, skills, competencies, necessary qualities and their use during the educational process; 2) communication skills; 3) organizational

skills; 4) motivation to succeed; 5) the lack of motivation to avoid failure, which is antithetic to the motivation to avoid failure; 6) the autocratic management style of the educational process of higher education applicants; 7) the democratic management style of the educational process of applicants for higher education; 8) the absence of the passive management style of the educational process of higher education applicants, which is antithetic to the passive management style; 9) the absence of the self-orientation, which is antithetic to the self-orientation; 10) the absence of the formal interaction orientation, which is antithetic to the formal interaction orientation; 11) the matter orientation; 12) the professional and cognitive reliability, which is antithetic to the professional and cognitive burnout; 13) the professional and volitional reliability, which is antithetic to the professional and volitional burnout; 14) the professional and emotional reliability, which is antithetic to the professional and emotional burnout; 15) the personalization, which is antithetic to the depersonalization; 16) the significance of personal achievements, which is antithetic to the reduction of personal achievements.

SECTION 3
EMPIRICAL STUDY OF THE QUALITY OF PROFESSIONAL ACTIVITY OF ACADEMIC STAFF

3.1. Management and methodology of empirical research

In the second chapter, we substantiate the psychological and pedagogical model of ensuring the quality of AS's professional activity. To identify its functional reliability, we organized and conducted an experimental study.

We hypothesized that: 1) all functional blocks of the psychological and pedagogical model of ensuring the quality of professional activity of academic staff (AS) were in a multi-level integral – a complex probabilistic interaction and mutual influence, which had some specific final results. These results reflected the corresponding level of development of the quality of AS's professional activity - high, above average, average, below average or low; 2) the quality of AS's professional activity also depended on their teaching experience and age. For this purpose, we divided a sample of academic staff into seven subgroups, which differed in their teaching experience and age. Each subgroup numbered 44 people (see the ABBREVIATIONS AND NOTATIONS and INTRODUCTION sections).

Several universities of Ukraine took part in the study. The sample consists of 308 scientific and pedagogical workers. The age of the academic staff varied from 23 to 77 years, whose teaching experience was from 1 to 49 years. All of them had higher education, hold the positions of assistants (lecturers), senior lecturers, associate professors, professors, and heads of departments with a wage rate from 0.5 to 1.5 on a state budget and commercial basis.

The results of a mathematical analysis confirmed that the sample was representative.

To define the quality, we used appropriate methods to improve the AS's professional activity.

Thus, we defined the quality of functioning of the knowledge-competency-personal module through the presence in a scientific and pedagogical employee of a set of knowledge, skills, competencies, necessary qualities (abilities) and their practical implementation in the educational process, using: 1) The methodology for determining how effectively teachers put their pedagogical skills and qualities into practice *(M. Varyi, M. Koz'ar, M. Koval')* [17]; 2) The Communication Skills and Leadership (CS&L-2) Assessment Methodology [150].

We note that this module can be defined and assessed differently, using a whole set of various tests. However, this is a hard work, since evaluating each group of knowledge, skills, competencies and personal qualities would be necessary.

The quality of functioning of the second – professional and motivational module – is assessed using the following: 1) The Effectance Motivation Assessment Methodology *(T. Ehlers)* [150]; 2) The Failure Avoidance Motivation Assessment Methodology*(T. Ehlers)* [150].

The quality of functioning of the third – professional and managerial module, that is, the effectiveness of the AS's management of the educational process of higher education applicants, is most appropriate to appraise using The Leadership Style Assessment Methodology *(O. Kozlovska, A. Romaniuk, V. Urunskyi)* [59].

Determining the quality of the fourth – professional-orientation module, which reflects how much the AS's professional orientation influences the quality of their professional activity, is possible using The Professional Orientation Assessment Methodology: *self-orientation – matter orientation – formal interaction orientation (V. Smackle, M. Kucher)* [59].

The quality of the fifth – professional-constructive module that reflects the AS's psychological and pedagogical professional reliability may be assessed using the value antithetic to their psychological and pedagogical professional deformation, which, in turn, is calculated in terms of the geometric mean of: 1) the professional and cognitive burnout, determined according to the author's AS Professional and Cognitive Burnout Assessment Methodology; 2) the professional and volitional burnout, determined according to the author's AS Professional Burnout and

Volitional Exhaustion Assessment Methodology 3) the professional and emotional burnout, depersonalization and reduction of personal achievements, determined using the Professional Burnout Syndrome Assessment Methodology *(C. Maslach and S. Jackson; Option 2 for teachers, lecturers and trainers, adapted by N. Vodopianova)* [24; 33].

In general, there are many ways to measure the AS's professional activity quality. However, the methods to identify and evaluate all the components of the AS's professional activity quality have a different point system. Therefore, in our opinion, it is most appropriate to calculate its components (functional block) using its coefficient, which is the ratio of the scored number of points to the maximum possible.

Mathematically, it is easy to calculate the quality factor of the AS's professional activity (*Cqe*) using the geometric mean, which, compared with the arithmetic mean, gives a more accurate picture of the integral interaction of variables of all components of the professional activity quality. At the same time, the geometric mean is the mean proportional because its measurement is based on n variables (in our case, the number of variables (components) that determine the quality of the AS's professional activity is 16 (i.e. n = 16), expressed by the 16 roots of the product of the coefficients of these 16 variables (components)).

Based on the above, the coefficient reflecting the level of quality of professional activity of a scientific and pedagogical worker (*Cqe*), calculated by determining the geometric mean coefficients: 1) the development of a set of knowledge, skills, competencies, and necessary qualities and their effective use during the educational process (*Cps*); 2) communication skills (*Cca*); 3) organizational skills (*Coa*); positive motivation: 4) the development coefficient in the AS's motivation to success (*Cms*); 5) the inverse coefficient of development in the AS's reason to avoid failure (*Cmf2*); the upbeat style of educational process management: 6) the coefficient of development of the AS's democratic management style (*Cdm*); 7) the coefficient of expansion of the AS's autocratic management style (*Cam*); 8) the inverse coefficient of development of the AS's passive management

style, that is, the AS has not it: *Cpc*2 = 1 – *Cpc*1; the positive professional orientation: 9) the development inverse coefficient of the AS's self-orientation, i.e. the lack of the AS's self-orientation: *Cfy*2 = 1 – *Cfy1*; 10) the development inverse coefficient of the AS's formal interaction orientation, that is, its absence in the AS: *Cfe*2 = 1 – *Cfe*1; 11) the development coefficient of the AS's matter orientation (*Cfb*); 12) the development coefficient of the AS's professional and cognitive reliability: *Cid*2 = 1 – *Cid*1 (*Cid*1is the development coefficient of the AS's professional and cognitive burnout); 13) the development coefficient of the AS's professional and volitional reliability *Cdw*2 = 1 – *Cdw*1 (*Cdw*1 is the development coefficient of the AS's professional and volitional burnout); 14) the development coefficient of the AS's professional and emotional reliability: *Cee*2 = 1 – *Cee*1 (*Cee*1 is the development coefficient of the AS's professional and emotional burnout); 15) the development coefficient of the AS's of personalization: *Cdp*2 = 1 – *Cdp*1 (*Cdp*1 is the development coefficient of the AS's depersonalization); 16) the development coefficient of the AS's personal achievements significance: *Cra*2 = 1 – *Cra*1 (*Cra*1 is the development reduction coefficient of the AS's achievements), using the formula

$$Cqe = \sqrt[16]{Cps * Cms * Cmf2 * Cam * Cpc2 * Cdm * Cca * Coa * Cfy2 * Cfe2} * \\ * \sqrt[16]{Cfb * Cid2 * Cdw2 * Cee2 * Cdp2 * Cra2}, \quad (3.1)$$

where Cqe is the quality coefficient of the AS's professional activity;

Cps is the development coefficient of the AS's knowledge, skills, competencies, necessary qualities and their effective use during the educational process;

Cms is the development coefficient of the AS's motivation to success;

$Cmf2$ is the development inverse coefficient of the AS's motivation to avoid failure;

Cam is the development coefficient of the AS's autocratic management style of the educational process of higher education recipients;

$Cpc2$ is the development inverse coefficient of the AS's passive management style of the educational process of higher education applicants, that is, its absence in the AS:

Cpc2 = 1 – Cpc1;

Cdm is the development coefficient of the AS's democratic management style of the educational process of higher education applicants;

Cca is the development coefficient of the AS's communication abilities;

Coa is the development coefficient of the AS's organizational abilities;

$Cfy2$ is the development inverse coefficient of the AS's self-orientation, i.e. the lack of AS's self-orientation: *Cfy*2 = 1 – *Cfy*1;

$Cfe2$ - the development inverse coefficient of the AS's interaction orientation, that is, its absence in the AS: *Cfe*2 = 1 – *Cfe*1;

$Cfb$is the development coefficient of the AS's matter orientation;

$Cid2$is the development coefficient of the AS's professional and cognitive reliability;

$Cdw2$ is the development coefficient of the AS's professional and volitional reliability;

$Cee2$is the development coefficient of the AS's professional and emotional reliability;

$Cdp2$is the development coefficient of the AS's personalization;

$Cra2$ is the development coefficient of the AS's significance of personal achievements.

Each of these coefficients is calculated using different formulas. However, their values are within $0 \leq C \leq 1$ and reflect the development (manifestation, expression) of each component and, in general, the quality of the AS's professional activity. This activity has the following levels:

1) low: at C = 0÷0.2;
2) below-average: at C = 0.21÷0.4;
3) average: at C = 0.41÷0.6;

4) above-average: at C = 0.61÷0.8;

5) high: at C = 0.81÷1.

We will briefly describe each method and reveal the features of determining the coefficients. We will present only those authors' methods that were not previously published.

In addition, to determine the AS's "scope of knowledge, skills, competencies, necessary qualities and their effective use during the educational process, we used an abridged version of the Methodology for determining how effectively teachers put their pedagogical skills and qualities into practice" (M. Varyi, M. Koz'ar, M. Koval') [17]. This includes 40 direct statements, each reflecting the development and application of the AS's corresponding pedagogical qualities and skills.

The experts were heads of departments who best knew the totality of the AS's pedagogical and professional qualities and skills and the effectiveness of their application during the educational process. The experts received the task to determine to what extent the AS developed their pedagogical qualities and skills and how they applied them in their professional activities.

The AS's points for each statement are attached. Next, the author calculates the development coefficient of the AS's pedagogical qualities and skills and their application effectiveness in pedagogical practice *(Cps)* using the formula.

$$Cps = \frac{\sum(X_1 \dots X_{40})}{200}, \qquad (3.2)$$

where Cps is the development coefficient of the AS's pedagogical qualities and skills and their application effectiveness in pedagogical practice;

X is the sum of the points received (for each statement) from 1 to 40;

200 is the maximum possible sum of points for all 40 statements.

The AS's communicative and organizational abilities occupy an essential place in the knowledge-competency-personal block of the quality of their professional

activity since such activity is a process of interaction with applicants for higher education, resulting in their active and coordinated activities.

We assessed the AS's communication and organizational skills using the Communication Skills and Leadership (CS&L-2) Assessment Methodology [150].

The authors surveyed each AS individually using this method. They were offered a questionnaire, answer forms and instructions.

The development coefficients of the AS's communication and organizational abilities were calculated based on the results obtained. These coefficients are the ratio of the number of matching answers of a particular power to the maximum possible number of matches. It is 20 in this case.

The development coefficient of the AS's organizational abilities (*Coa*) is calculated by the formula

$$Coa = \frac{\sum(X_2 \dots X_{40})}{20}, \quad (3.3)$$

where Coa is the development coefficient of the AS's organizational abilities;

X the sum of the points of all paired statements from 2 to 40;

20 is the maximum possible number of points for all 20 paired statements.

The formula calculates the development coefficient of the AS's communication skills *(Cca)*

$$Cca = \frac{\sum(X_1 \dots X_{39})}{20}, \quad (3.4)$$

where Cca is the development coefficient of the AS's communication skills;

X is the sum of points of all odd statements from 1 to 39;

20 is the maximum possible sum of points for all 20 odd statements.

The professional and motivational block is equally important. Undoubtedly, the AS's motivation to achieve success is positive for the quality of their professional activity, while the reason to avoid failure is harmful. Motivation for achieving success ensures effective organization and implementation of tasks of the educational process of higher education applicants, the introduction of new pedagogical technologies, forms and methods of teaching, development, professional training and upbringing, and application of non-standard options for solving educational problems, etc. The motivation for achieving success is related to the reason for the AS's official growth, the achievement of material benefits, rewards, etc. Conversely, the lack of the AS's evident desire for success, an attempt to avoid failures, that is, mistakes, condemnation, criticism, punishment, removal from office, dissatisfaction, both on the part of higher education applicants and the part of the heads of HEIs often leads to formalism in the educational process.

Therefore, we have studied the influence of motivation to achieve success and inspiration to avoid failure on the AS's professional activity quality. The following methods are used for this purpose: 1) Effectance Motivation Assessment (T. Ehlers) [150]; 2) Failure Avoidance Motivation Assessment (T. Ehlers) [150].

To determine the level of the AS's motivation for success, we must decide on the coefficient, which is the ratio of the sum of points scored to the maximum possible, reflecting the highest reason for success. In this case, it is 32. Then the development coefficient of the AS's motivation for success (*Cms*) is calculated by the formula

$$Cms = \frac{\sum My}{32}, \tag{3.5}$$

where Cms is the development coefficient of the AS's motivation to success;

$\sum My$ is the sum of points based on the statements that reflect the AS's motivation to succeed;

32 is the maximum possible number of points for all statements that reflect motivation for success.

The Failure Avoidance Motivation Assessment Methodology is a test, developed by T. Ehlers [150], which allows assessing the level of individual psychological protection, motivation to avoid failures, and fear of failure.

To determine the level of development of the AS's motivation to avoid failure, we must calculate the coefficient, which is the ratio of the sum of points scored to the maximum possible, reflecting the highest level of motivation to avoid failure, in this case, it is 30. Based on this, the development coefficient of the AS's motivation to avoid failure (Cmf1) is calculated by the formula

$$Cmf1 = \frac{\sum Mn}{30}, \tag{3.6}$$

where $Cmf1$ is the development coefficient of the AS's motivation to avoid failure;

$\sum Mn$ is the sum of points based on the statements that reflect the motivation to avoid failure;

30 is the maximum possible number of points for all statements that reflect the motivation to avoid failure.

The AS's effective management of the educational process of higher education applicants depends on the style they choose.

To identify and assess the managerial effectiveness of higher education applicants' educational process, we selected the Leadership Style Assessment Methodology (O. Kozlovska, A. Romaniuk, V. Urunskyi) [59], which covers 60 statements. The subjects had to objectively answer the questions in an affirmative form, corresponding to their views, behaviour, actions, and attitude toward people. The authors of this methodology proposed their classification of leadership styles,

defining them as autocratic, passive and democratic. The styles fully correspond to the AS's management styles of higher education applicants' educational process.

The answers of each AS are summed up using the keys (Table. 3.1).

Table 3.1

Keys to** the **analysis of results using the Leadership Style Assessment Methodology (Kozlovska O. V., Romaniuk A. Y., Urunskyi V. I.)

Management style	**Answer number - approval**	**Sum of answers**
Autocratic	1, 6, 7, 12, 13, 18, 19, 24, 25, 30, 31, 36, 37, 42, 43, 48, 49, 54, 55, 60.	
Passive	2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44, 47, 50, 53, 56, 59.	
Democratic	3, 4, 9, 10, 15, 16, 21, 22, 27, 28, 33, 34, 39, 40, 45, 46, 51, 52, 57, 58.	

A corresponding coefficient, calculated using the formula, determines the level of development of a particular management style of higher education applicants' educational process, namely:

1) the autocratic management style of higher education applicants' educational process

$$Cam = = \frac{\sum(x_{1,}x_{6,}x_{7,}x_{12,}x_{13,}x_{18,}x_{19,}x_{24,}x_{25,}x_{30,}x_{31,}x_{36,}x_{37,}x_{42,}x_{43,}x_{48,}x_{49,}x_{54,}x_{55,}x_{60})}{20}, \quad (3.7)$$

where Cam is the development coefficient of the AS's autocratic management style of higher education applicants' educational process;

x is the results of test tasks $\sum(1,6,7,12,13,18,19,24,25,30,31,36,37,42,43,48,49,54,55,60)$ - according to the corresponding statements (see Table. 3.1);

20 is the maximum possible number of points for all 20 statements, which define the AS's autocratic management;

2) the AS's passive management style of higher education applicants' educational process

$$Cpc1 = \\ = \frac{\sum(x_{2,}x_{5,}x_{8,}x_{11,}x_{14,}x_{17,}x_{20,}x_{23,}x_{26,}x_{29,}x_{32,}x_{35,}x_{38,}x_{41,}x_{44,}x_{47,}x_{50,}x_{53,}x_{56,}x_{59})}{20}, (3.8)$$

where $Cpc1$is the development coefficient of the AS's passive management style of higher education applicants' educational process;

x is the results of test tasks (2,5,8,11,14,17,20,23,26,29,32,35,38,41,44,47,50,53,56,59) according to the corresponding statements and key (see Table. 3.1);

20 is the maximum possible number of points for all 20 statements that determine the AS's passive management style;

3) the AS's democratic management style of higher education applicants' educational process:

$$Cdm = \\ = \frac{\sum(x_{3,}x_{4,}x_{9,}x_{10,}x_{15,}x_{16,}x_{21,}x_{22,}x_{27,}x_{28,}x_{33,}x_{34,}x_{39,}x_{40,}x_{45,}x_{46,}x_{51,}x_{52,}x_{57,}x_{58})}{20}, (3.9)$$

where Cdm is the development coefficient of the AS's democratic management style of higher education applicants' educational process;

x is the results of test tasks (3,4,9,10,15,16,21,22,27,28,33,34,39,40,45,46,51,52,57,58) according to the corresponding statements that reflect the democratic management style (see Table. 3.1);

20 is the maximum possible number of points for all 20 statements, which determine the AS's democratic management style.

To determine and assess the AS's professional orientation, we used the Professional Orientation Assessment Methodology: *self-orientation – matter orientation – formal interaction orientation* (V. Smackle and M. Kucher) [59].

The matter or business orientation characterizes the AS's focus on the quality and effectiveness of higher education applicants' educational process . Being focused on the matter, the AS cooperates and actively interacts with applicants for higher education despite their needs and interests. They also try to solve educational problems, increase cognitive activity, improve learning conditions, and look for the most appropriate means, forms, and methods. Such AS follows the planned pedagogical tasks of the educational process under any circumstances. It constantly strives to acquire new knowledge and master new skills, abilities, and methods.

The AS's self-orientation involves solving their problems. They are not interested in the problems, needs, or expectations of applicants for higher education.

The AS's formal interaction orientation involves enjoying prestige among applicants for higher education and colleagues and imitating teeming activities.

To determine the development level of the AS's *self-orientation*, *formal interaction orientation*, and *matter orientation*, we have to calculate the corresponding coefficients, which are the ratio of the sum of maximum possible points reflecting a particular direction. In this case, the maximum possible number of points is 54 for each orientation component.

The following formula calculates the development coefficient of the AS's *self-orientation* (Cfy1).

$$Cfy1 = \frac{\sum Ss}{54}, \tag{3.10}$$

where $Cfy1$ is the development coefficient of the AS's *self-orientation*;

$\sum Ss$ is the sum of points based on the statements that reflect the AS's *self-orientation;*

54 is the maximum possible sum of points for all 27 statements that characterize the *self-orientation.*

The formula calculates the development coefficient of the AS's *formal interaction orientation* (Cfe1)

$$Cfe1 = \frac{\sum Sv}{54}, \quad (3.11)$$

where *Cfe1* is the development coefficient of the AS's *formal interaction orientation*;

$\sum Sv$ is the sum of points based on the statements, which reflect the AS's *formal interaction orientation;*

54 is the maximum possible sum of points for all 27 statements reflecting *the formal interaction orientation*.

The following formula calculates the development coefficient of the AS's *matter orientation* (*Cfb*)

$$Cfb = \frac{\sum Sd}{54}, \quad (3.12)$$

where Cfb is the development coefficient of the AS's *matter orientation*;

$\sum Sd$is the sum of points based on the statements that reflect the AS's *matter orientation;*

54 is the maximum number of points for all 27 statements, which characterize the *matter orientation*.

The AS's psychological and pedagogical professional reliability also significantly affects the quality of their professional activity. We have revealed this reliability in the second Section. It is formed if the AS has: 1) the professional and

cognitive reliability (*Cid2*), 2) the professional and volitional reliability (*Cdw2*), 3) the professional and emotional reliability (*Cee2*), 4) personalization (*Cdp2*); 5) the significance of personal achievements (*Cra2*).

At the same time, we have proved that p -the level of the AS's psychological and pedagogical professional reliability - reflects the inversely proportional level of their psychological and pedagogical occupational deformation (see Table. 2.1), which, in turn, is determined through their professional burnout, that is, the professional and cognitive reliability (*Cid2*) is inversely proportional to the professional and cognitive burnout (*Cid1*), the professional and volitional reliability (*Cdw2*) to the professional and volitional burnout (*Cdw1*), the professional and emotional reliability (*Cee2*) to the professional and emotional burnout, 4) the personalization (*Cdp2*) to the depersonalization (*Cdp1*), 5) the significance of personal achievements (*Cra2*) to the reduction of personal achievements (*Cra1*).

The following formula calculates the development coefficient of the AS's professional and cognitive reliability

$$Cid2 = 1 - Cid1, \quad (3.13)$$

where *Cid2* is the development coefficient of the AS's professional and cognitive reliability;

Cid1 is the development coefficient of the AS's professional and cognitive burnout.

The author's AS Professional and Cognitive Burnout Assessment Methodology determines the development coefficient of the AS's professional and cognitive burnout (*Cid1*) (Annex A).

The following formula calculates the development coefficient of the AS's professional and volitional reliability (*Cdw2*)

$$Cdw2 = 1 - Cdw1, \quad (3.14)$$

where $Cdw2$ is the development coeffective of the AS's professional and volitional reliability;

$Cdw1$ is the coefficient of the AS's professional and volitional burnout.

The author's Professional Burnout and Volitional Exhaustion Assessment Methodology determines the development coefficient of the AS's professional and volitional burnout (*Cdw1*) (Annex B).

The following formula calculates the development coefficient of the AS's professional and emotional reliability.

$$Cee2 = 1 - Cee1, \quad (3.15)$$

where $Cee2$ is the development coefficient of the AS's professional and emotional reliability;

$Cee1$ is the development coefficient of the AS's professional and emotional burnout.

The following formula calculates the development coefficient of the AS's personalization.

$$Cdp2 = 1 - Cdp1, \quad (3.16)$$

where $Cdp2$ is the development coefficient of the AS's personalization;

$Cdp1$ is the development coefficient of the AS's depersonalization.

The following formula calculates the development coefficient of the AS's significance of personal achievements

$$Cra2 = 1 - Cra1, \quad (3.17)$$

where $Cra2$ is the development coefficient of the AS's significance of personal achievements;

$Cra1$ is the development coefficient of the AS's reduction of personal achievements.

To identify and assess the development of the AS's professional and emotional burnout (*Cee1*), depersonalization (*Cdp1*) and reduction of personal achievements (*Cra1*), we used the MBI questionnaire of American researchers C. Maslach and S. Jackson, adapted by N. Vodopianova [24], specifically Option 2 for teachers, lecturers and trainers, contains a three-component model of the "burnout" syndrome. According to this model, "burnout" means *emotional exhaustion, depersonalization and reduction of personal achievements.* Emotional exhaustion is the main component of AS's "professional burnout", which manifests in a decrease in the vibrant background, indifference or emotional overload. *AS's depersonalization* manifests in the deformation of their relations with students and colleagues. During depersonalization, the AS avoids "unnecessary contacts" and shows a high dependence on managers and individuals. This AS shows acute negativism, criticism of colleagues and students, combines cynicism when interacting with them with pragmatism, but refuses previous friendships and reduces the social circle. *On the one hand, the reduction of AS's achievements* manifests in the tendency to their negative self-assessment, professional activities, achievements and successes, and professional growth, a negative attitude and pessimism about their official suitability. On the other hand, the tendency includes reducing their virtues and limiting their capabilities and responsibilities.

Based on this, the development coefficients of the AS's professional and emotional burnout (*Cee1*), depersonalization (*Cdp1*) and reduction of personal achievements (*Cra1*) are calculated according to the appropriate formulas.

Thus, the development coefficient of the AS's professional and emotional burnout (*Cee1*), determined based on the ratio of the sum of points scored to the maximum possible, is calculated using the formula

$$Cee1 = \frac{\sum Evu}{54}, \quad (3.18)$$

where $Cee1$ is the development coefficient of the AS's professional and emotional burnout;

$\sum Evu$ is the sum of points based on the statements, which reflect the professional and emotional burnout (Table. 3.2);

54 is the maximum number of points for all statements, reflecting the highest level of professional and emotional burnout.

Table 3.2.

Key to questionnaire answers

Sub-scale	***Number of statement***
Professional and emotional burnout	1, 2, 3, 6, 8, 13, 14, 16, 20
Depersonalization	5, 10, 11, 15, 22
Reduction of personal achievements	4, 7, 9, 12, 17, 18, 19, 21

The following formula calculates the development coefficient of the AS's depersonalization (*Cdp1*)

$$Cdp1 = \frac{\sum Dp}{30}, \quad (3.19)$$

where $Cdp1$ the development coefficient of the AS's depersonalization;

$\sum Dp$ is the sum of points based on the statements, which reflect the depersonalization (see Table. 3.2);

30 is the maximum possible number of points for all statements, which reflect the highest level of the AS's depersonalization.

The following formula calculates the development coefficient of the AS's reduction of personal achievements

$$Cra1 = \frac{\sum Rod}{48}, \quad (3.20)$$

where $Cra1$ is the development coefficient of the AS's reduction of personal achievements;

$\sum Rod$ is the sum of points based on the statements, which reflect the reduction of personal achievements (see Table. 3.2);

48 is the maximum number of points for all statements, reflecting the highest level of the AS's reduction of personal achievements.

3.2. Results of an empirical study on the quality of professional activity of academic staff and their interpretation

Using the above methods, first, we determined the level (value) of development of each component of the quality of the AS's professional activity.

Thus, the results, which were analysed using the methodology for determining how effectively teachers put their pedagogical skills and qualities into practice *(M. Varyi, M. Koz'ar, M. Koval')* indicate that the development of the component aggregate knowledge, skills, competencies, personal qualities and their effective implementation by AS in the educational process is at the high level in 102 (33.11%) people, at the above-average level – in 81 (26.3%) people, at the average level – in 89 (28.9%) people, at the below-average level – in 25 (8.12%) people, at the low level – in 11 (3.57%) people. In general, these results reflect a sufficient level of development of this component of the AS's professional activity quality.

However, in the AS subgroups formed by their teaching experience and age, the development level of aggregate knowledge, skills, competencies, personal qualities and their practical implementation by AS in the educational process (in Fig. 3.1, abbreviated KSCQ (knowledge, skills, competencies, qualities)) is different (from now on, data are statistically significant at least $\rho<0,05$). We used the Kruskal-Wallis test to determine the average variance of distribution-free parameters to assess and explain differences in the expression (development) of the components of the AS's professional activity quality in the subgroups formed by different ages and teaching experience.

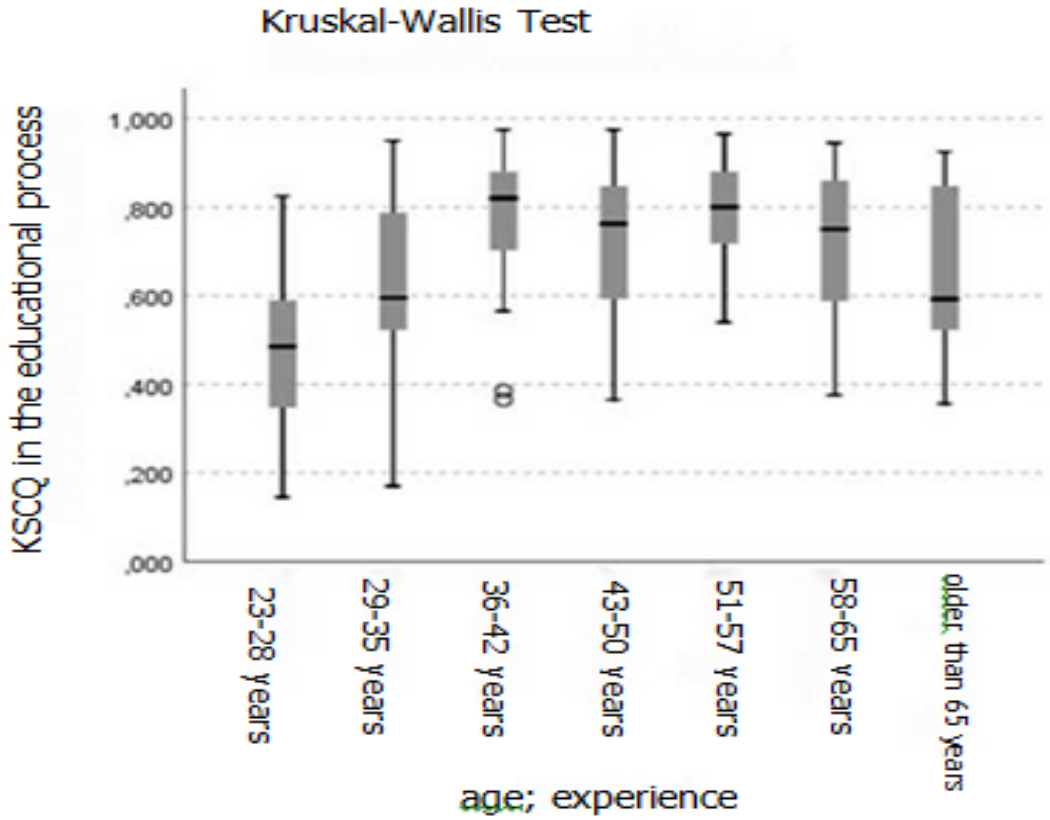

Fig. 3.1. Diagram of differences between the AS subgroups formed based on the amount of teaching experience and age, according to the level of development (expression) of a set of knowledge, skills, competencies, personal qualities and their practical implementation in the educational process based on the Kruskal-Wallis test.

The test allows 1) determining the range of distribution of coefficients of development of the quality of professional activity in each AS subgroup; 2) their most excellent density (frequency) in this segment; 3) calculating the average values of asymmetric (nonparametric) parameters in each AS subgroup, based on which the value of development of the quality of professional activity (all its components) was compared between the seven AS subgroups, formed by age and teaching experience.

Based on the Kruskal-Wallis test, the highest level of KSCQ development was detected in subgroup III. The value of the coefficients varied from 0.58 to 0.98 with a density from 0.71 to 0.88 on average for distribution-free parameters ($\bar{x}$) 0.82, i.e. $\bar{x}$ = 0.82.

We observed almost the same development level of this component in AS subgroup V. The value of the coefficients varied from 0.56 to 0.97 with a density

from 0.73 to 0.88, when $\bar{x} =$ was 0.80, i.e. lower than in the previous group. The development level of this vital component of the quality of AS's professional activity is Slightly lower in AS VI subgroup. The value of the coefficients varied from 0.38 to 0.95 with a density from 0.62 to 0.87 at $\bar{x} = 0.78$.

As you can see, in this subgroup, the distribution range of the development coefficients is more expansive, and their average value is less than in the previous two groups.

In AS Subgroup IV, the KSCQ development level is from 0.37 to 0.98 with a density from 0.62 to 0.86 at $\bar{x} = 0.78$. In AS subgroup VII, the development level of this component is from 0.36 to 0.94 with a density from 0.56 to 0.87 at $\bar{x} = 0.59$.

The lowest development level of aggregate knowledge, skills, competencies and personal qualities is in AS subgroup I. The value of the coefficients is from 0.14 to 0.84 with a density from 0.36 to 0.60 at $\bar{x} = 0.50$. In AS subgroup II, the level is slightly higher than in AS subgroup I and lower than in all other subgroups. The value of the coefficients is from 0.17 to 0.94, with a density from 0.54 to 0.80 at $\bar{x} = 0.60$.

In our opinion, the fact that AS subgroup III has the highest development level of aggregate knowledge, skills, competencies, personal qualities and their practical implementation by the AS in the educational process, compared with all other subgroups, including those where the teaching experience is more extended, is due to the fact that the AS of this subgroup, first, is still full of physical, moral and mental strength, since they have not been yet knocked down by the professional burnout; second, as a rule, they still actively work on dissertations and other scientific research; third, they still quickly adapt to the constant changes taking place in the educational environment, to new forms, methods and technologies of educational activities; fourth, they are still able to effectively master digital and information technologies, retrain, work on-line, etc.; fifth, they strive to achieve high results in professional activities, prove themselves to others in a Department, have steady job and take certain positions, etc.

Interestingly, AS Subgroup III is followed by AS Subgroup V, not AS Subgroup IV, according to the KSCQ development level. Probably, this results from some professional burnout in AS subgroups IV, affected by the midlife crisis, on the one hand. On the other hand, most of them have already achieved what they wanted, so they calmed down and directed their activity to their family, children, and so on. Compared to AS subgroup IV, AS subgroup V has already passed the crisis mid-life and decided on the future. They want to earn money in such a way as to receive a decent pension. At this very time, AS of subgroup VI and subgroup VII must prove that higher education institutions still need them and that it is too early for them to retire.

Suppose the above average and high development levels of aggregate knowledge, skills, competencies, personal qualities, and effective use during the educational process are sufficient for high-quality activities. In that case, 9 (20.46%) people demonstrate them in AS subgroup I (formed by ages and teaching experience, each subgroup numbers 44 (100%) lecturers), 20 (45.45%) in AS subgroup II, 35 (79.54%) in AS subgroup III, 33 (75.0%) in AS subgroup IV, 35 (79.54%) in AS subgroup V, 30 (68.18%) in AS subgroup VI, and 21 (47.73%) in AS subgroup VII.

Most AS that with the low and below average development levels of this component are from Subgroup I – 21 (48.34%) people. This is not surprising since this AS group is the youngest, with teaching experience from 1 to 5 years. They continue mastering professional knowledge and skills, forming competencies and acquiring educational experience (although this process for each AS, regardless of its age and teaching experience, is continuous since new knowledge is produced quite quickly in our time).

In subgroup II, the number of AS with the low and below average development levels of this critical component of the quality of their professional activity is 7 (15.91%) people. In other groups, their number is scanty.

Now, let us analyse the role and place of their communicative and organizational abilities in the knowledge-competency-personal module of the psychological and pedagogical model of ensuring the quality of the AS professional

activity. The author has found out that the AS uses: 1) at the high development level: the communication skills in 102 (33,11) people and organizational skills in 69 (22.4%) people ; 2) at the above-average development level: communication skills in 88 (28.57%) people and organizational skills in 72 (23.38%) people ; 3) at the average development level: communication skills in 83 (26.95%) people and organizational skills in 79 (25.65%) people; 4) at the below-average development level: communication skills in 25 (8.12%) people and organizational skills in 58 (18.83%) people; 5) at the low development level: communication skills in 10 (3.25%) people and organizational skills in 30 (9.74%) people.

As for the AS subgroups formed based on the teaching experience and age, their communication skills are the most developed in AS subgroup IV, and the organizational skills in AS subgroup III. In terms of the development of communication and organizational abilities, AS subgroup V occupies the second position; AS subgroup III is the third, and AS subgroup IV, in terms of their organizational skills. In terms of the development of both communication and organizational abilities, AS subgroups VI, II, VII and I occupy the fourth, fifth, sixth and seventh positions, respectively.

However, the AS may have the necessary aggregate knowledge, skills, competencies, communication and organizational abilities, etc., but do not use them in the educational process for various reasons. The lack of motivation for practical professional activities may be the most likely reason for this.

Let us analyse the professional and motivational module of the quality of the AS's professional activity.

The results were analysed using the Effectance Motivation Assessment Methodology (T. Ehlers). They allow us to conclude that the AS motivation to achieve success is at the high level in 56 people (18.18%), at the above-average level – in 85 (27.6%) people, at the average level – in 85 (27.6%) people, at the lower average level – in 44 (14.29%) people, and at the low level – in 38 (12.33%) people.

In the AS subgroups formed based on teaching experience and age, the motivation for achieving success differs (Fig. 3.2).

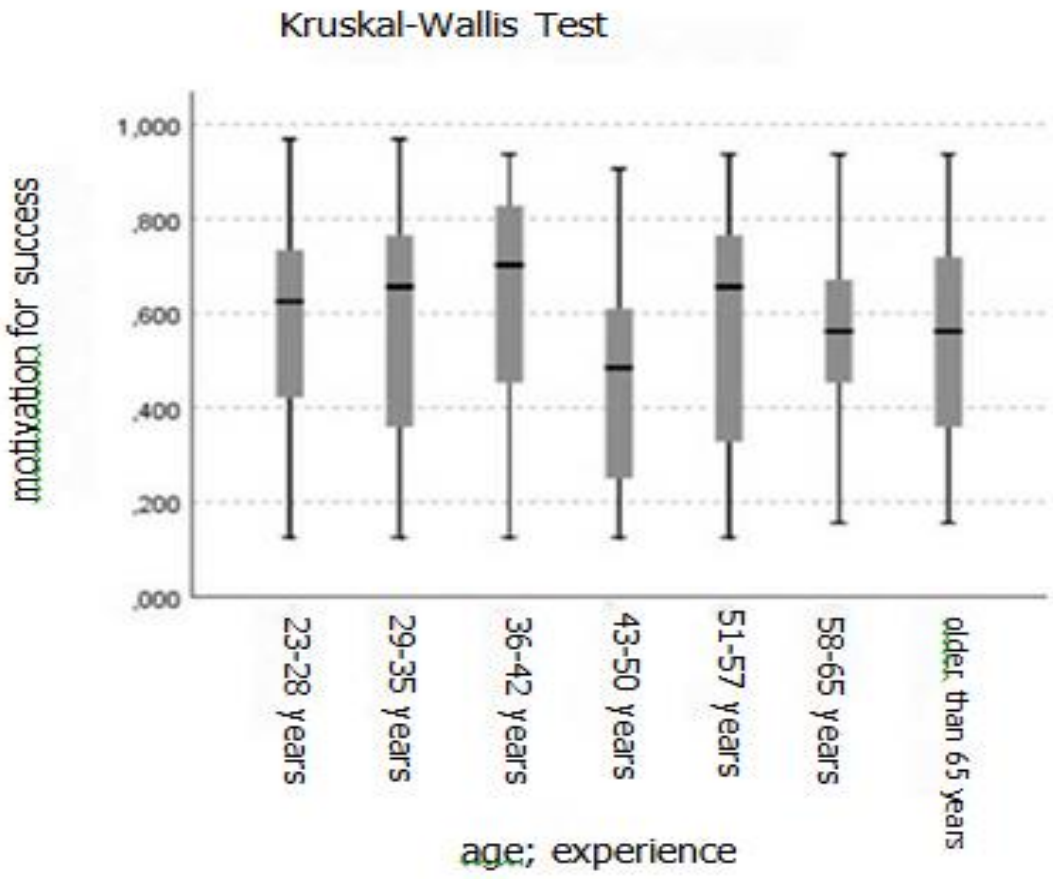

Fig. 3.2. Diagram of differences between the AS subgroups formed based on their teaching experience and age, according to the level of development (expression) of motivation to achieve success based on the Kruskal-Wallis test.

Fig. 3.2 shows that the highest level of development of motivation to achieve success is in Subgroup III. The value of the coefficients is from 0.11 to 0.94 with a density from 0.47 to 0.83 at $\bar{x}$ =0.72. Regarding the motivation to achieve success, AS Subgroup II occupies second place. The value of the coefficients is from 0.11 to 0.98, with a density from 0.37 to 0.78 at $\bar{x}$ = 0.67. AS Subgroup V is in third place. The value of the coefficients ranges from 0.10 to 0.95, with a density from 0.32 to 0.78 at $\bar{x}$ = 0.67. Subgroup I occupies fourth place in terms of motivation to achieve success (1-5 years of teaching experience, age: 23-28 years). The value of the coefficients ranges from 0.11 to 0.98, with a density from 0.43 to 0.75 at $\bar{x}$ = 0.63. AS subgroup VI is the fifth in terms of motivation to achieve success (34-40 years of teaching experience, age: 58-65 years). The value of the coefficients ranges from 0.13

to 0.95, with a density from 0.47 to 0.68 at $\bar{x} = 0.57$. AS subgroup VII is the sixth (more than 40 years of teaching experience, age: older than 65 years). The value of the coefficients also ranges from 0.13 to 0.95, with a density from 0.37 to 0.73 at $\bar{x} = 0.57$.

The lowest development level of motivation to achieve success is in AS subgroup IV. The value of the coefficients ranges from 0.10 to 0.91, with a density from 0.24 to 0.61 at $\bar{x} = 0.50$. This level results from the midlife crisis, professional burnout, and rethinking values in favour of personal and family values.

As for the motivation to avoid failure, 12 (3.9%) lecturers have the highest level, 84 (27.27%) have the above-average level, 145 (47.08%) have the average level, 66 (27.6%) have the below-average level, and 1 (0.32%) has the low level.

Since the issue is about the quality of professional activity, we are interested in the lack of the AS's motivation in to avoid failure (Fig. 3.3), which indicates that the AS does not have a fear of introducing the latest knowledge, new methods and technologies into the educational process, experimenting, resolutely rejecting outdated templates, routine, unnecessary, taking risks, taking responsibility for the result, fighting formalism in the educational process, and so on.

The lack of the AS's motivation to avoid failure was: at the highest level in 1 lecturer (0.32%), at the above-average level in 66 (27.6%) people, at the average level in 145 (47.08%) of them, at the below-average level in 84 (27.27%) people, at the low level in 12 (3.9%) people.

Based on the comparison of the results of professional activities, the AS subgroups, formed according to their teaching experience and age, demonstrate (Fig. 3.2 and Fig. 3.3) one trend – the higher the development level of motivation to achieve success, the lower the level of motivation to avoid failure.

However, every AS is motivated to achieve success and avoid failure. There is a confrontation between the motives of these two groups in different situations. Which one wins depends on various internal and external factors.

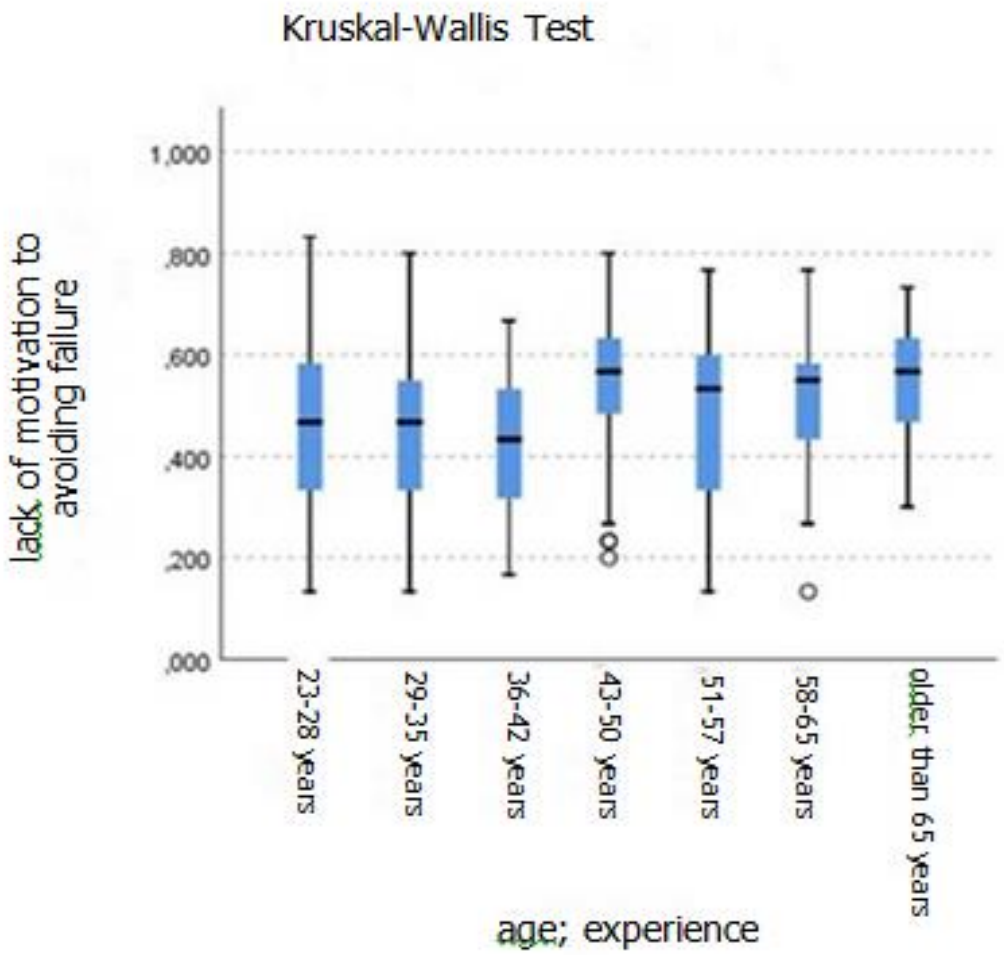

Fig. 3.3. Diagram of differences between the AS subgroups formed based on their teaching experience and age, according to the development level of their motivation to avoid failure based on the Kruskal-Wallis test.

Then, using THE Leadership Style Assessment Methodology (O. Kozlovska, A. Romaniuk, V. Urunskyi), which reflects the quality of functioning of the professional and managerial module.

Regarding the management of the educational process of higher education applicants, we are interested in how the AS uses their autocratic management style (AMS), democratic management style (DMS) and passive (liberal) management style (PMS) for higher education applicants' educational process.

It was found that the AS used: 1) at the high development level: AMS in 10 (3.25%) people; DMS in 4 (1.3%) people and PMS in 44 (14.29%) people; 2) at the above-average development level: AMS in 19 (6.17%) people; DMS– 12 (3.9%)

people and PMS in 61 (19.8%) people; 3) at the average development level: AMS in 37 (12.01%) people; DMS in 31 (10.06%) people and PMS in 96 (31.17%) people; 4) at the below-average development level: AMS in 110 (35.71%) people; DMS in 138 (44.8%) people and PMS in 77 (25.0%) people; 5) at the low development level: AMS in 132 (42.86%) people; DMS in 123 (39.94%) people and PMS in 30 (9.74%) people.

In the AS subgroups formed based on the years of teaching experience and age, the development coefficients of the autocratic management style of higher education applicants' educational process (Fig. 3.4) are most concentrated in the range of 0.21 to 0.40, except for AS subgroups III, indicating the below-average use level.

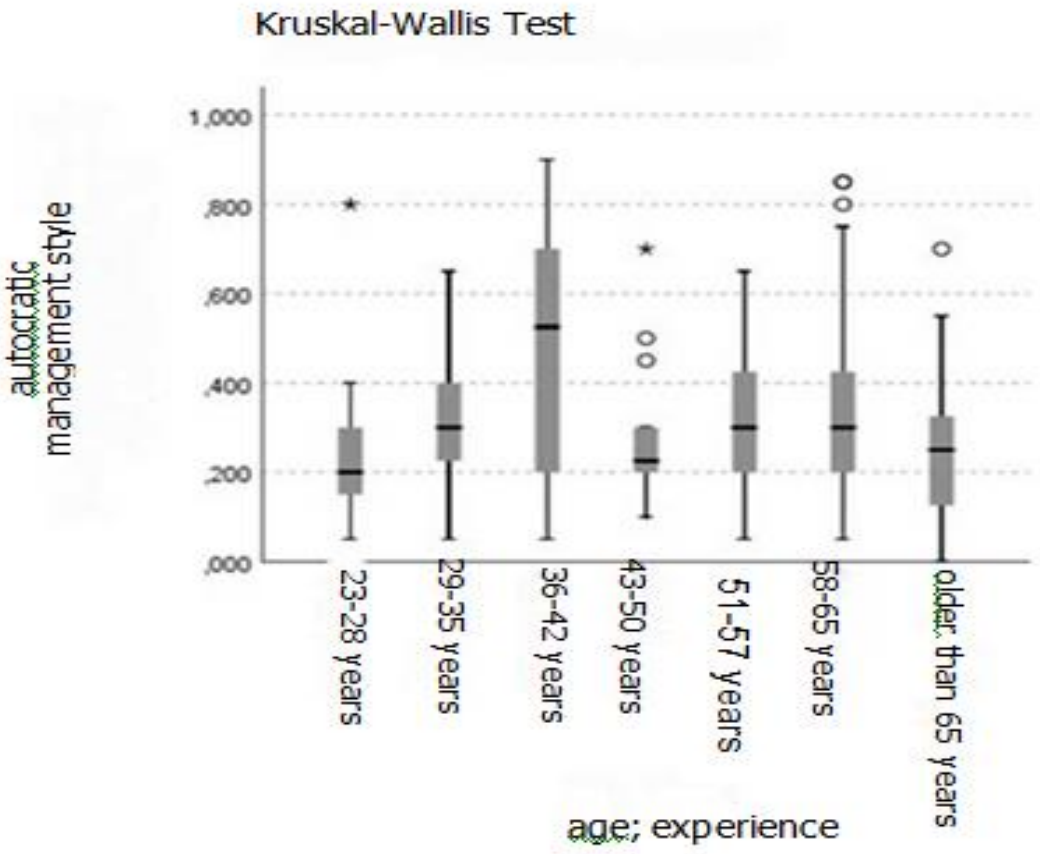

Fig. 3.4. Diagram of differences between the AS subgroups formed based on their teaching experience and age, according to the development level of their autocratic management style of higher education applicants' educational process based on the Kruskal-Wallis test.

Fig. 3.4 shows that to the greatest extent the autocratic management style of higher education applicants' educational process is inherent in AS subgroup III. The value of the coefficients ranges from 0.05 to 0.91, with a density from 0.19 to 0.59 at $\bar{x} = 0.52$. Subgroups II, V and VI follow it with lower but, in fact, almost identical results. AS Subgroup VII is slightly lower than the previous ones, and AS Subgroup IV is even lower in relation to it. The value of the coefficients ranges from 0.10 to 0.30, with a density from 0.20 to 0.29 at $\bar{x} = 0.22$.

The autocratic management style of the educational process prevails to a minor extent in AS subgroups I. The value of the coefficients ranges from 0.04 to 0.40, with a density from 0.20 to 0.30 at $\bar{x} = 0.20$.

This is because the AS of this subgroup wants to please students and gain authority with them; second, they have not yet formed personal qualities and knowledge for using an autocratic management style.

A similar pattern is in different subgroups of national research institutes, divided by teaching experience and age and by the development of their democratic management style of the educational process. The difficulty in using this AS management style in different subgroups is not significant. The democratic management style of the educational process prevails in AS subgroup II, in which the value of the coefficients ranges from 0.05 to 0.67, with a density from 0.20 to 0.40 at $\bar{x} = 0.30$, and, to a minor extent, in AS subgroup I, in which the value of the coefficients ranges from 0.05 to 0.60, with a density from 0.10 to 0.30 at $\bar{x} = 0.20$.

In terms of the development of the democratic management style, AS Subgroup V is the second, in which the value of the coefficients ranges from 0.05 to 0.78, with a density from 0.21 to 0.42 at $\bar{x} = 0.28$; AS Subgroup VII is the third, in which the value of the coefficients ranges from 0.10 to 0.62, with a density from 0.21 to 0.38 at $\bar{x} = 0.25$; AS Subgroup VI is the fourth, in which the value of the coefficients ranges from 0.05 to 0.71, with a density from 0.18 to 0.37 at $\bar{x} = 0.25$; AS Subgroup IV is the fifth, in which the value of the coefficients ranges from 0.05 to 0.52, with a density from 0.22 to 0.35 at $\bar{x} = 0.24$; AS Subgroup III is the sixth, in

which the value of the coefficients ranges from 0.05 to 0.43, with a density from 0.12 to 0.34 at $\bar{x} = 0.21$.

Next, we analyse the manifestation of the AS's passive (liberal) management style of higher education applicants' educational process. The analysis indicates that this style manifests itself at the highest level in 30 (9.74%) lecturers, at the above-average level in 77 (25.00%) of them, at the average level in 96 (31.17%) people, at the below-average level in 61 (19.80%) people, at the lowest level in 44 (14.29%) people.

Regarding the passive (liberal) management style to determine the quality of the AS's professional activity, we are interested in its absence, that is, the presence of some other type that does not harm the quality of the educational process. The passive (liberal) management style of the educational process is mostly absent in the AS at the highest level in 44 (14.29%) people, at the above-average level in 61 (19.80%) people, at the average level in 96 (31.17%) people, at the below-average level in 77 (25.00%) people, at the lowest level in 30 (9.74%) people.

In the AS subgroups formed based on teaching experience and age, the development of an effective management style of the educational process (i.e., not the passive type) differs.

The results show that the effective (not the passive) management style of higher education applicants' educational process manifests itself in AS Subgroup III, in which the value of the coefficients ranges from 0.15 to 0.96, with a density from 0.55 to 0.85 at $\bar{x} = 0.69$; AS Subgroup V is the second, in which the value of the coefficients ranges from 0.15 to 0.96, with a density from 0.46 to 0.75 at $\bar{x} = 0.60$; AS Subgroup II is the third, in which the value of the coefficients ranges from 0.15 to 0.91, with a density from 0.46 to 0.75 at $\bar{x} = 0.55$; AS Subgroup VI subgroup is the fourth, in which the value of the coefficients ranges from 0.10 to 0.96, with a density from 0.44 to 0.64 at $\bar{x} = 0.55$; AS Subgroup VII is the fifth, in which the value of the coefficients ranges from 0.10 to 0.96, with a density from 0.30 to 0.64 at $\bar{x} = 0.39$; AS Subgroup IV is the sixth, in which the value of the coefficients ranges from 0.10 to 0.91, with a density from 0.30 to 0.55 at $\bar{x} = 0.38$; AS Subgroup I is the seventh,

the last, in which the value of the coefficients ranges from 0.09 to 0.86, with a density from 0.25 to 0.50 at $\bar{x} = 0.35$.

According to the study results, AS Subgroup III effectively manages higher education applicants' educational process. This subgroup appropriately combines autocratic and democratic styles, avoiding the passive one. In terms of the educational process management effectiveness, AS subgroups V occupies the second position, to AS subgroup II is the third, AS subgroup VI is the fourth, AS subgroup VII is the fifth, AS subgroup IV is the sixth, AS subgroups I is the seventh.

We have used the Professional Orientation Assessment Methodology: *self-orientation – matter orientation – formal interaction orientation (V. Smackle, M. Kucher)* and obtained the results that reflect the quality of the professional-orientation module.

The analysis of the results obtained using this method gives grounds to declare that the AS demonstrates: 1) at the high development level: *self-orientation* in 0 (0.00%) people; *formal interaction orientation* in 17 (5.52%) people and *matter orientation* in 51 (16.56%) people; 2) at the above-average development level: *self-orientation* in 2 (0.65%) people; *formal interaction orientation* in 38 (12.34%) people and *matter orientation* in 70 (22.73%) people; 3) at the average development level: *self-orientation* in 13 (14.22%) people; *formal interaction orientation* in 36 (11.69%) people and *matter orientation* in 90 (29.22%) people; 4) at a below-average development level: *self-orientation* in 103 (33.44%) people; *formal interaction orientation* in 80 (25.97%) people and *matter orientation* in 67 (21.75%) people; 5) at the low development level: *self-orientation* in 190 (61.695%) people; *formal interaction orientation* in 138 (44.81%) people and *matter orientation* in 30 (9.74%) people.

The analysis and comparison of the results shows that most AS manifests their *"matter orientation.*

However, regarding the AS's *self-orientation* and *formal interaction orientation*, we are interested in their absence to determine the quality of the professional activity. Actually, according to the quality criterion, the AS

demonstrates: 1) at the high development level: no *self-orientation* in 190 (61.695%) people and no *formal interaction orientation* in 138 (44.81%) people; instead, there is the *matter orientation* in 51 (16.56%) people; 2) at the above-average development level: no *self-orientation* in103 (33.44%) people and no *formal interaction orientation* in 80 (25.97%) people; instead, there is the *matter orientation* in 70 (22.73%) people; 3) at the average development level: no *self-orientation* in 13 (14.22%) people and no *formal interaction orientation* in 36 (11.69%) people; instead, there is the *matter orientation* in 90 (29.22%) people; 4) at a below-average development level: no *self-orientation* in 2 (0.65%) people and no *formal interaction orientation* in 38 (12.34%) people; instead, there is the *matter orientation* in 67 (21.75%) people; 5) at the low development level: no *self-orientation* in 0 (0.00%) people and no *formal interaction orientation* in 16 (5.19%) people; instead, there is the *matter orientation* in (9.74%) people.

In the AS subgroups formed based on teaching experience and age, the *self-orientation, matter orientation,* and *formal interaction orientation* are different.

Thus, the *matter orientation* (Fig. 3.5) manifests itself in AS subgroup V, in which the value of the coefficients ranges from 0.18-0.95, with a density from 0.52 to 0.85 at $\bar{x} = 0.73$. As for the absence of such negative phenomena as the *self-orientation* and the *formal interaction orientation*, this subgroup is in the third position with $\bar{x} = 0.86$ and 0.88, indicating significant effects of the AS's professional orientation in their relations with applicants for higher education.

In terms of the development of the *matter orientation,* AS Subgroup III occupies the second place. The value of the coefficients ranges from 0.17 to 0.98, with a density from 0.48 to 0.83 at $\bar{x} = 0.69$. At this very time, in terms of the absence of the *self-orientation,* this group is in the fourth position with $\bar{x} = 0.86$. In terms of the *formal interaction orientation*, *it is* in the first position with $\bar{x} = 0.85$, which also indicates the effectiveness of the AS's professional orientation when interacting with applicants for higher education.

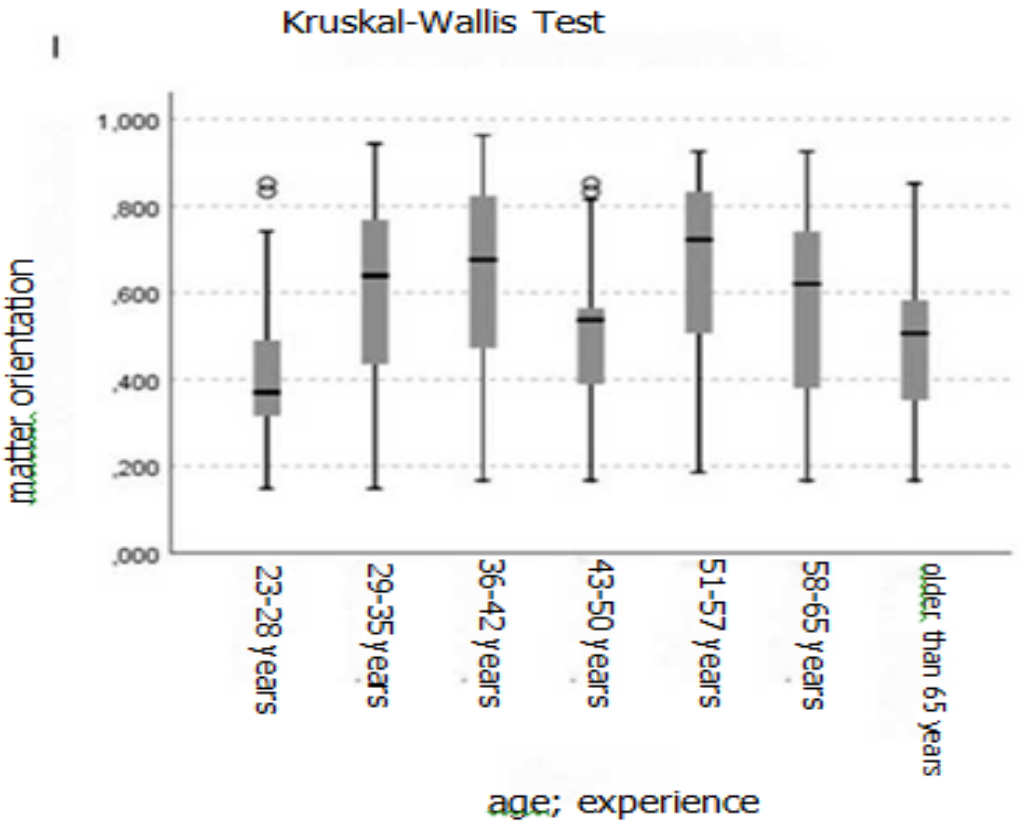

Fig. 3.5. Diagram of differences between the AS subgroups formed based on their teaching experience and age, according to the development level of self-orientation based on the Kruskal-Wallis test

Regarding the development of the *matter orientation*, AS Subgroup II occupies third place. The value of the coefficients ranges from 0.14 to 0.96, with a density from 0.44 to 0.78 at $\bar{x} = 0.64$. At the same time, in terms of the lack of the *self-orientation component*, this subgroup is in the first position with $\bar{x} = 0.9$. Regarding the *formal interaction orientation component*, it is the fifth with $\bar{x} = 0.70$.

In this subgroup, the effectiveness of the AS professional orientation is slightly lower when interacting with higher education applicants than in the previous groups, resulting from a certain level of their *formal interaction orientation*. In our opinion, this results from their inexperience and desire to win prestige among applicants for higher education.

Regarding the development of the *matter orientation*, AS Subgroup VI occupies fourth place. The value of the coefficients ranges from 0.16 to 0.95, with a

density from 0.39 to 0.75 at $\bar{x} = 0.62$ (see Fig. 3.5). However, in the lack of the *self-orientation component*, this group is in the sixth position when $\bar{x} = 0.77$, and in terms of the *formal interaction orientation component*, it is in the second position with$\bar{x} =$ 0,88.

These results indicate that the AS's professional orientation when interacting with applicants for higher education is still quite effective. However, they show the average level of the *matter orientation* due to the need to solve their problems and meet their needs.

Regarding the development of the *matter orientation*, located AS Subgroup IV is the fifth. The value of the coefficients ranges from 0.17 to 0.83, with a density from 0.40 to 0.57 at $\bar{x} = 0.55$. Although, in terms of the absence of the *self-orientation component*, this group is the second with an average for asymmetric distributions of 0.90, and in terms of the *formal interaction orientation*, it is in the sixth position at $\bar{x} = 0.64$. In this subgroup, the effectiveness of the AS's professional orientation when interacting with applicants for higher education is lower than in the previous groups due to a sufficiently developed *formal interaction orientation*. The midlife crisis, fatigue, and workload probably make themselves felt in this aspect.

Regarding the development of the *matter orientation*, AS Subgroup VII is the sixth. The value of the coefficients ranges from 0.16 to 0.88, with a density from 0.37 to 0.59 at $\bar{x} = 0.51$. Regarding the absence of the *self-orientation*, this group is the seventh with an average for asymmetric distributions of 0.73. In terms of the *formal interaction orientation*, it is the fourth at $\bar{x} = 0.78$. In this subgroup, the AS's professional orientation when interacting with applicants for higher education is at the average level. The *self-orientation* affects this adversely, which, in our opinion, results from age characteristics and health deterioration.

Regarding the development of the *self-orientation component*, AS Subgroup I is the seventh, occupying the last place. The value of the coefficients ranges from 0.14 to 0.76, with a density from 0.32 to 0.49 at $\bar{x} = 0.37$. As for the lack of the *self-orientation component*, this subgroup is the fifth at $\bar{x} = 0.83$. In terms of the *formal interaction orientation*, it is the seventh at $\bar{x} =0.39$. All this shows that the AS's

professional orientation when interacting with applicants for higher education is the least effective in this subgroup and is insufficient for high-quality professional activity. The lack of experience, the desire to please students and the presence of personal problems to be solved result in this professional orientation.

The quality of the professional-constructive module provides AS's psychological and pedagogical professional reliability. We determined it using the inversely proportional value of their psychological and pedagogical professional deformation, which, in turn, results from their professional burnout, requiring appropriate methods.

Thus, using the author's AS Professional and Cognitive Burnout Assessment Methodology (see Annex A), we obtained results that reflected the development level of the AS's professional and cognitive burnout. Then, using formula 3.13, we calculated the professional and cognitive reliability of each AS.

We obtained the AS's professional-volitional burnout results using the author's AS Professional Burnout and Volitional Exhaustion Assessment Methodology (see Annex B). Then, using formula 3.14, we calculated the professional-volitional reliability of each AS.

Using the Professional Burnout Syndrome Assessment Methodology *(C. Maslach and S. Jackson; Option 2 for teachers, lecturers and trainers, adapted by N.E. Vodopianova)* [24] we obtained the results about: 1) the AS's professional and emotional burnout; 2) the AS's depersonalization; 3) the reduction of personal achievements.

Using formulas 3.15, 3.16, and 3.17, we calculated the AS's professional and emotional reliability of; 2) the AS's personalization; and 3) the significance of personal achievements.

The results show that the AS manifests:

1) at the high development level: the professional and cognitive reliability in 67 (21.76%) people; the professional and volitional reliability in 113 (36.69%) people; the professional and emotional reliability in 71 (23.05%) people; the personalization

in 68 (22.08%) people; the significance of personal achievements in 78 (25.32%) people;

2) at the above-average level: professional and cognitive reliability – in 102 (33.11%) people; professional and volitional reliability in 78 (25.32%) people; the professional and emotional reliability in 85 (27.60%) people; the personalization in 91 (29.54%) people; the significance of personal achievements in 69 (2.40%) people;

3) at the average level: the professional and cognitive reliability in 79 (25.65%) people; the professional and volitional reliability in 72 (23.38%) people; the professional and emotional reliability in 59 (19.16%) people; the personalization in 59 (19.16%) people; the significance of personal achievements in 49 (15.91%) people;

4) at the below-average level: the professional and cognitive in 59 (19.16%) people; the professional and volitional reliability in 35 (11.36%) people; the professional and emotional reliability in 61 (19.80%) people; the personalization in 59 (19.16%) people; the significance of personal achievements in 76 (24.68%) people;

5) at the low level: the professional and cognitive reliability in 1 (0.32%) people; the professional and volitional reliability in 10 (3.25%) people; the professional and emotional reliability in 32 (10.39%) people; the personalization in 31 (10.06%) people; the significance of personal achievements in 36 (11.69%) people.

The overall development of the AS's psychological and pedagogical professional reliability: is absent at the low level; manifests in 38 (12.34%) people at the below-average level; in 100 (32.47%) people at the average level; in 103 (33.44%) people at the above-average level; in 67 (21.75%) people at the high level.

In the AS subgroups formed based on teaching experience and age, the professional-cognitive reliability, the professional-volitional reliability, the professional-emotional reliability, the personalization, and the significance of personal achievements differ in their level of development.

Thus, the development of the professional and cognitive reliability (Fig. 3.6) mainly manifests itself in AS subgroup II, in which the value of the coefficients ranges from 0.36 to 0.95, with a density from 0.61 to 0.88 at $\bar{x} = 0.82$.

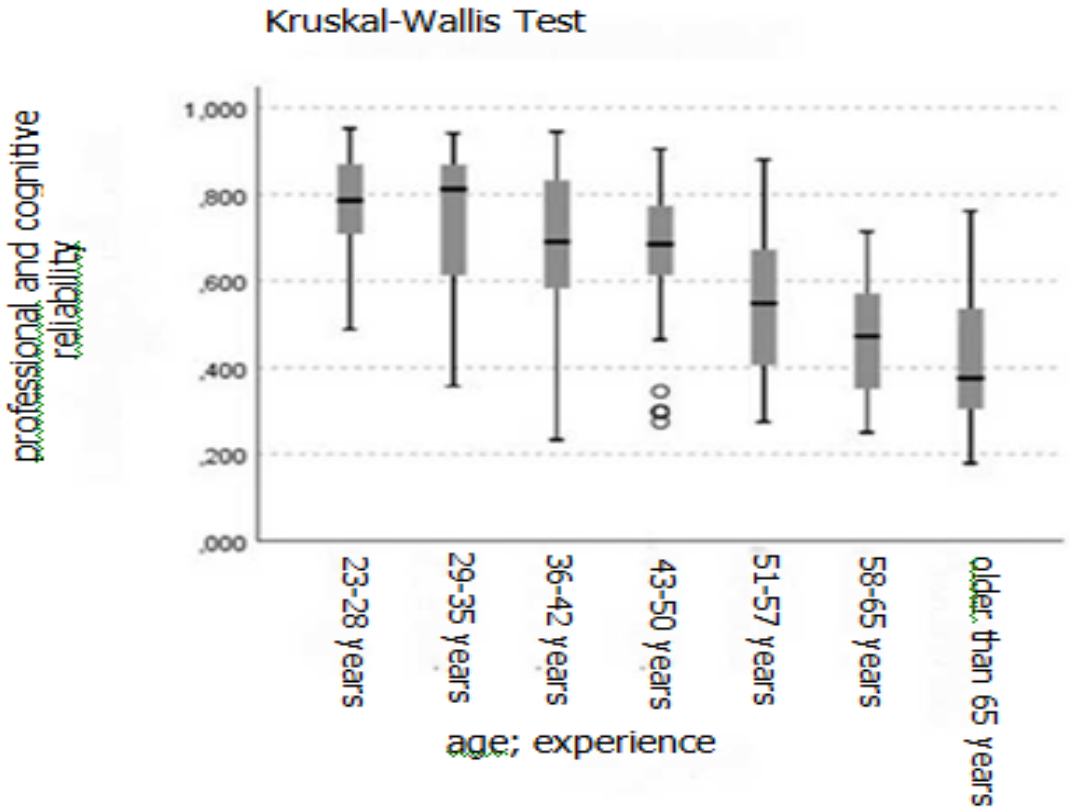

Fig. 3.6. Diagram of differences between the AS subgroups formed based on their teaching experience and age, according to the development level of professional and cognitive reliability based on the Kruskal-Wallis test.

AS subgroup I is the second. The value of the coefficients ranges from 0.51 to 0.87, with a density from 0.73 to 0.87 at $\bar{x} = 0.79$. AS subgroup III is the third. The value of the coefficients ranges from 0.32 to 0.92, with a density from 0.59 to 0.84 at $\bar{x} = 0.60$. AS subgroup IV is the fourth. The value of the coefficients ranges from 0.46 to 0.92, with a density from 0.61 to 0.78 at $\bar{x} = 0.59$. AS subgroup V is the fifth. The value of the coefficients ranges from 0.28 to 0.86, with a density from 0.41 to 0.67 at $\bar{x} = 0.54$. AS subgroup VI is the sixth. The value of the coefficients ranges from 0.27 to 0.72, with a density from 0.36 to 0.59 at $\bar{x} = 0.48$. AS subgroup VII is the seventh.

The value of the coefficients ranges from 0.18 to 0.78, with a density from 0.32 to 0.53 at $\bar{x}$ =0.38.

The development the professional and volitional reliability (Fig. 3.7) is the highest in AS subgroup I at $\bar{x}$ = 0.83. AS subgroup II is the second at $\bar{x}$ =0.81; AS subgroup III is the third at $\bar{x}$ =0.74; AS subgroup V is the fourth at$\bar{x}$ =0.67; AS subgroup IV is the fifth at $\bar{x}$ =0.59; AS subgroup VI is the sixth at $\bar{x}$ =0.54; AS subgroup VII is the seventh at $\bar{x}$ =0.45.

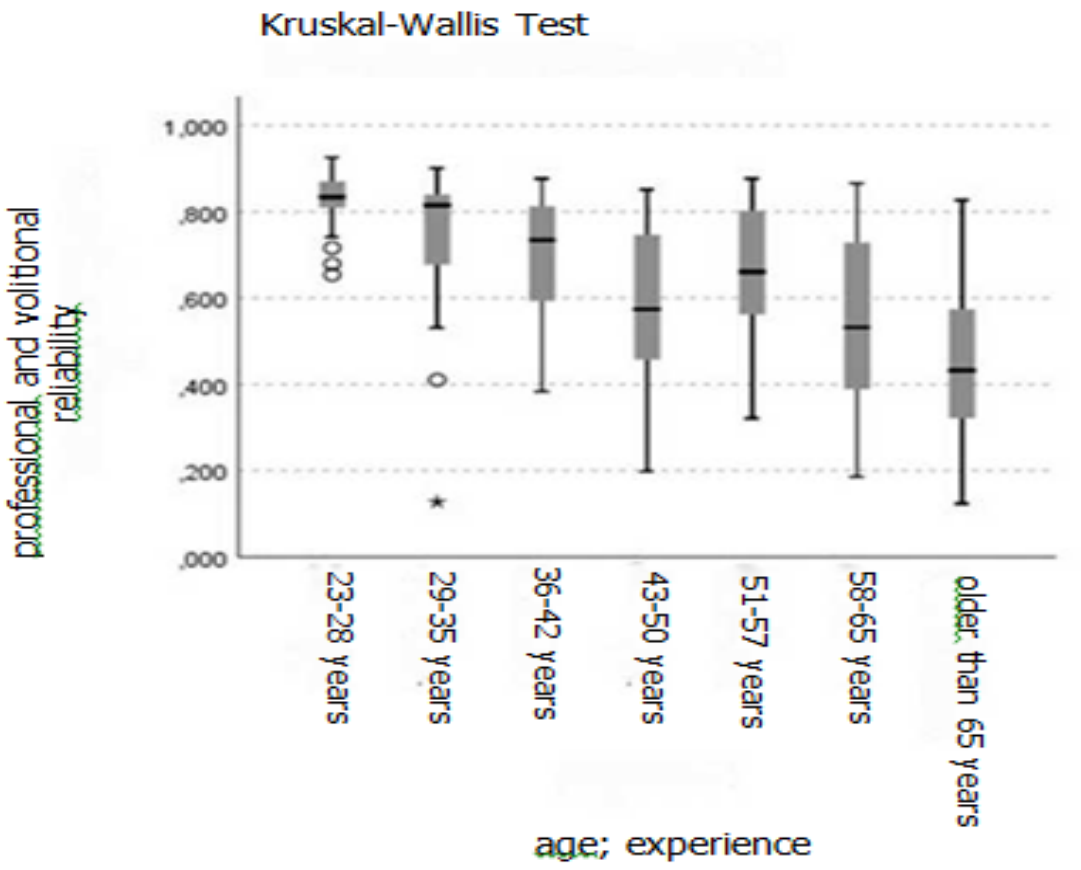

Fig. 3.7. Diagram of differences between the AS subgroups formed based on their teaching experience and age, according to the development level of professional and volitional reliability based on the Kruskal-Wallis test

As you can see, the AS's professional and volitional reliability decreases with teaching experience and age, except for AS subgroup IV, in which this level is lower than that of AS subgroup V. In our opinion, this is also because AS subgroup IV

writhes at their mid-life crisis and is inevitably disillusioned with their profession, overloaded with their families and professional problems, and constant educational changes.

The development level of the professional and emotional reliability (Fig. 3.8) is the highest in AS subgroup I at $\bar{x}$ =0.85. AS subgroup II is the second at $\bar{x}$ =0.82; AS subgroup III is the third at$\bar{x}$ =0.68; AS subgroup V is the fourth when $\bar{x}$ =0.52; AS subgroup VI is the fifth at $\bar{x}$ =0.48; AS subgroup VII is the sixth at $\bar{x}$ =0.39; AS subgroups IV is the seventh at $\bar{x}$ =0.38.

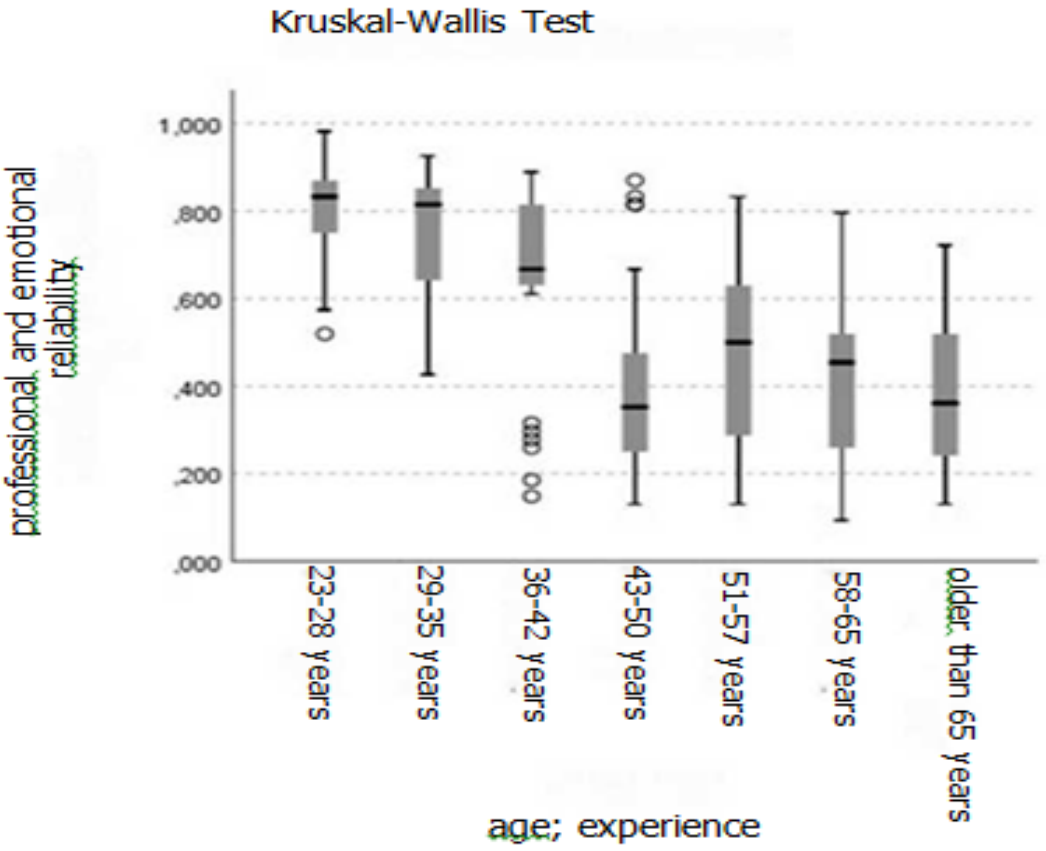

Fig. 3.8. Diagram of differences between the AS subgroups formed based on their teaching experience and age, according to the development level of professional and emotional reliability based on the Kruskal-Wallis test

In terms of the personalization development level, AS of subgroup I occupies the highest first place at $\bar{x}$ =0.84;-AS II subgroups is the second at $\bar{x}$ =0.82; AS subgroup III is the third at $\bar{x}$ = 0.67; AS subgroup IV is the fourth at $\bar{x}$ =0.52; AS

subgroup V is the fifth at $\bar{x} = 0.49$; AS subgroup VI is the sixth at $\bar{x} = 0.37$; AS subgroup VII is the seventh at $\bar{x} = 0.37$.

As you can see, the AS's personalization decreases with teaching experience and age. In our opinion, this results from the development of age-related professional burnout.

Regarding the development level of the significance of personal achievements, again, AS subgroup I occupies the highest (first) place at $\bar{x} = 0.91$; AS subgroup II is the second at $\bar{x} = 0.85$; AS subgroup III is the third at $\bar{x} = 0.68$; AS subgroup V is the fourth at $\bar{x} = 0.52$; AS subgroup IV is the fifth at $\bar{x} = 0.39$; AS subgroup VI is the sixth at $\bar{x} = 0.39$; AS subgroup VII is the seventh at $\bar{x} = 0.37$.

Thus, the significance of the AS's achievements and their personalization decreases with teaching experience and age. Probably, AS of this age prioritizes more essential things – universal, social, national, spiritual, cultural, social and personal values, their health, the well-being of their relatives, etc., over their achievements.

In general, there is no development in the AS's professional activity quality in this sample both at low and high levels. 26 (8.44%) people demonstrated the quality of professional activity at the below-average level; 241 (78.25%) people at the average level; 43 (13.31%) people at the above-average level. These results show that the AS's professional activity quality is at the average level in this sample. A total of 284 (91.56%) lecturers have it at the average and above-average levels.

A question may arise: Is it possible that any AS of the sample does not have the highest development level of the quality of their professional activities? It turns out that it is true. Perhaps this is the reason that does not allow the quality of Ukrainian education to rise to the European level. At the same time, the results of the study show what directions we need to move to achieve the European quality of education.

To identify the incidence of each of the 16 components of the quality of AS's professional activity on their (quality) level of development, based on the results of correlation analysis, we will build a correlation model of the quality of the AS's professional activity (Fig. 3.9).

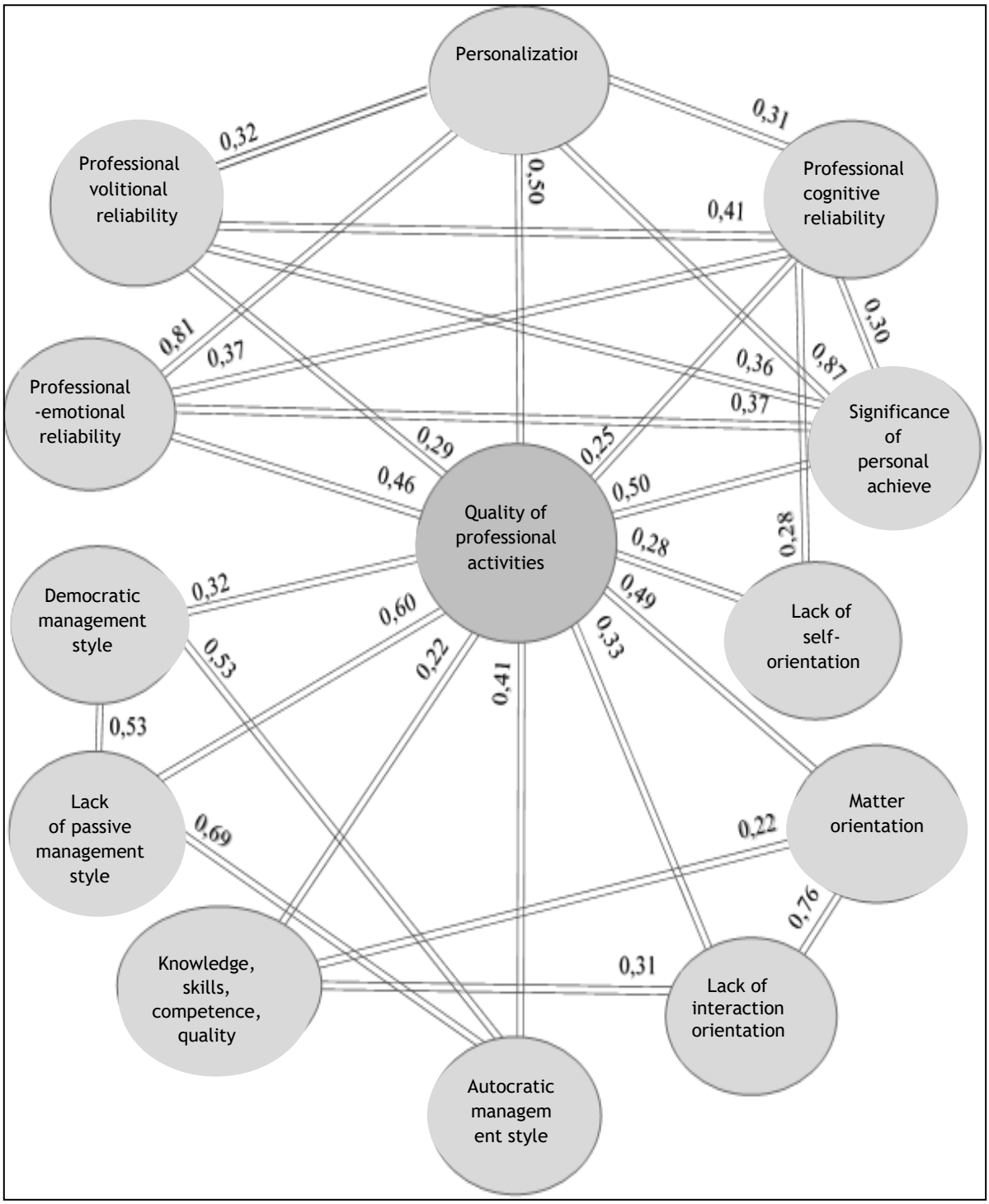

Fig. 3.9. The correlation pleiade of the quality of The AS's professional activity of the entire sample (the double line "=" indicates positive correlations relationships at a ≤ 0.01)

Analysis of linear correlation coefficients of the quality of the AS's professional activity allowed us to study and analyse our sample's leading

characteristics and features. To find out the statistical probability of correlations, the author used the Pearson correlation coefficient *r*.

We want to note that the correlation matrix shows even more relationships between the components than in Fig. 3.9, but they are insignificant *r=0.2,* and, therefore, not included. To identify the leading and defining components that form the core of the quality of AS's professional activity, we focused on the 1% level of statistical significance and the strength of this relationship, identifying among them those who gained weight more than 0.4 *(p≤0.01)* [36; 89, p. 147].

Thus, the following components are most strongly and reliably interconnected and form the core of the quality of professional activity: the lack of the passive management style for higher education applicants, the personalization component, the significance of personal achievements, the matter orientation, the professional and emotional reliability and the autocratic management style. The lack of the formal interaction orientation component and the democratic management style strengthen this core significantly. All these components are associated with a high level of statistical significance *(p≤0.01)* in addition to the relationship between the matter orientation and the autocratic management style, which is p≤0.05.

According to the results of our research, the quality of the AS's professional activity, first of all, depends on the appropriate style of management of higher education applicants' educational process since the components such as the lack of the passive management style, the autocratic management style and the democratic management style are also related to the quality of professional activity at a high level of statistical significance (p≤0.01), and there is a strong relationship between them in comparison with other components (see Fig. 3.9).

Thus, the core component – autocratic management style – is related to the quality of professional activity with *r*=0.42 (p≤0.01). In our opinion, this correlation reflects the general features of the education management process and the most effective cooperation model - scientific and pedagogical worker - student - in current conditions since the autocratic position implies an asymmetrically high level of AS's responsibility in comparison with students. The autocratic style results from the fact

that AS provides most of the work: as a rule, they work hard, even during off-hours, focusing on high achievements and self-organization. In addition, this interaction style implies clear goals, timely implementation, prompt solutions to complex tasks and precise execution of the overall plan.

Of course, the autocratic management style of higher education applicants' educational process also has disadvantages. For example, it can be difficult to hear a student from this position, especially if critical formal rules of the educational process are violated.

In support of our hypothesis regarding compensatory efficiency, the autocratic management style indicates its correlation with the matter orientation ($p \leq 0.05$). Therefore, largely, this management style is effective, fast, acceptable, and effective.

Interestingly, this style also determines the activity of the educational process. Thus, the lack of the passive management style in higher education applicants' educational process correlated with the quality of professional activity and the autocratic management style of students' educational process ($p \leq 0.01$). This correlation combination emphasizes the AS's active position when managing the educational process. AS is always included, involved, responsible, managing, and so on.

Both the personalization component and the significance of personal achievements hold pride of place in assuring the quality of AS's professional activity, the strength of which is connected with the quality of professional activity is $r=0.5$ $(p \leq 0.01)$.

At the same time, a modern academic worker's effectiveness is also due to its matter orientation ($r=0.49$; $p \leq 0.01$). We should note that the matter orientation is an active link in AS's functional and procedural management system. It results from AS's motivated, purposeful behaviour, which is an activity aimed at achieving particular results in these conditions.

This correlation reflects the employee's focus on the educational process, studying and solving the problems of applicants for higher education, and providing them with practical assistance on various issues. Such AS shows integrity and

demands on applicants for higher education, always tries to improve the educational process, introduces new forms, methods, pedagogical and information technologies, and so on.

In our opinion, the fact that the matter orientation is one of the most relevant components of AS's professional activity indicates a high level of awareness of their professional activities and perhaps even the achievements of Acme in this process.

The quality of professional activity correlated with the professional and emotional reliability ($r=0.46$; $p \leq 0.01$). Getting into the core of emotional reliability indicates AS's importance and need to generate positive emotions, be emotionally sensitive to higher education applicants, and be stable and tolerant during their pedagogical interaction.

This indicates that our AS sample consists mainly of devotees. They are real professionals and can raise a younger generation of specialists because they are emotionally involved in this process. This is important for them. Correlation between the professional and emotional reliability and the significance of personal achievements ($r=0.37$; $p \leq 0.01$) confirms our opinion. AS must have a positive emotional relationship with applicants for higher education. Probably this is part of their internal concept of a professional teacher.

A positive correlation combines the AS's significance of personal achievements with their quality of professional activity, professional and emotional reliability and personalization ($p \leq 0.01$). Logically, an individual's high-quality professional activity results from its significance for the individual. Best of all, people do what they love and probably appreciate it the most and are most proud of it.

Thus, the quality of AS's professional activity depends, first of all, on the effectiveness of the chosen management style of higher education applicants' educational process, their personal qualities, personalization, the significance of personal achievements, matter orientation and professional and emotional reliability.

Next, we decided to analyse the features of the quality of professional activity of the AS subgroups formed by age and teaching experience.

Correlation model of the quality of professional activity of AS subgroup I (1-5 years of educational experience, age: 23-28 years). Using the results of correlation analysis, we built a pleiade, which helped us present the leading relationships of the quality of professional activity of the youngest AS subgroup I (Fig. 3.10).

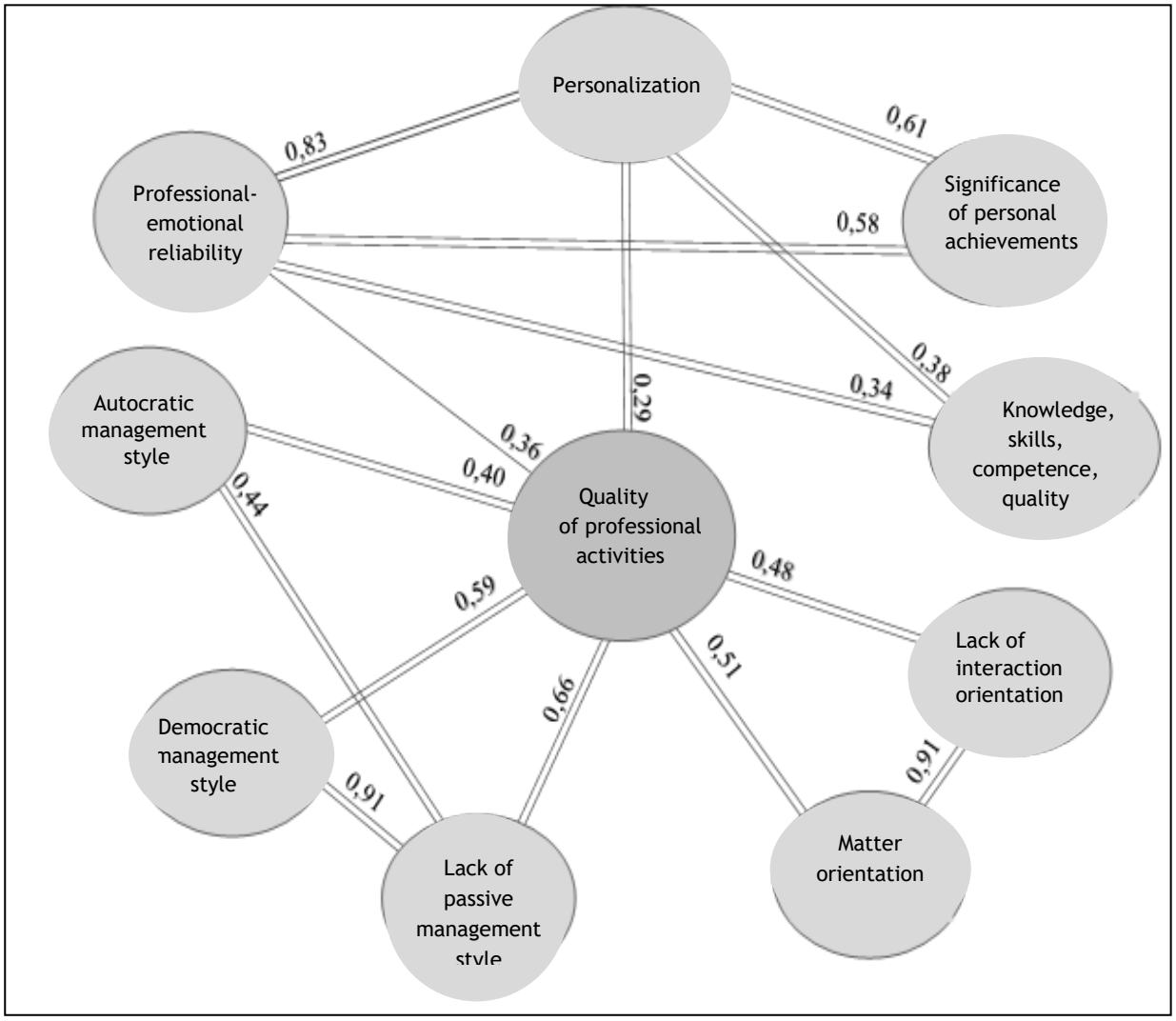

Fig. 3.10. Correlation pleiade of the quality of professional activity in AS subgroup l (1-5 years of educational experience, age 23-28 years) (the double line "=" indicates positive correlations at

a ≤ 0.01, the single line "—" at a ≤ 0.05)

Let us note that the correlation matrix contains more relationships between the components than shown in Fig. 3.10 since we use those that are not less than *r=0.3.*

Fig. 3.10 shows that the following components determine the core of professional activity quality in this AS subgroup. They include the lack of the passive management style for higher education applicants, the democratic management style, the matter orientation, the lack of the formal interaction orientation, and the autocratic management style form a relationship at the level of 1% statistical significance. Their professional and emotional reliability enhances this core significantly. The strength of the connection with the quality of professional activity is *r=0.36 (p≤0.05*).

However, in fact, the AS's personalization is projected on the quality of professional activity, which forms a strong relationship with the professional and emotional reliability (*r=0.83; p≤0.01),* the significance of personal achievements, which creates a relationship with the professional and emotional reliability *r=0.58 (p≤0.01),* knowledge, skills, competency, qualities *(*a set of knowledge, skills, competencies, necessary qualities and their effective implementation in the educational process), which form a relationship with the professional and emotional reliability *r=0.34 (p≤0.01).*

As can be seen, professional knowledge, skills, abilities, and competencies are essential to meet the need to manifest their personality at the initial stage of professional development and to achieve socially significant results for young AS. Their personalization also provides them with emotional satisfaction from the significance of their personality, from what they do, i.e., from their professional activities.

The AS of this subgroup shows less organizational and communication skills.

Correlation model of the quality of professional activity of AS subgroup II (6-12 years of educational experience, age: 29-35 years). Based on the correlation analysis of the results of the study of the quality of professional activity of AS subgroup II we identified the leading factors and modelled a correlation pleiade (Fig. 3.11).

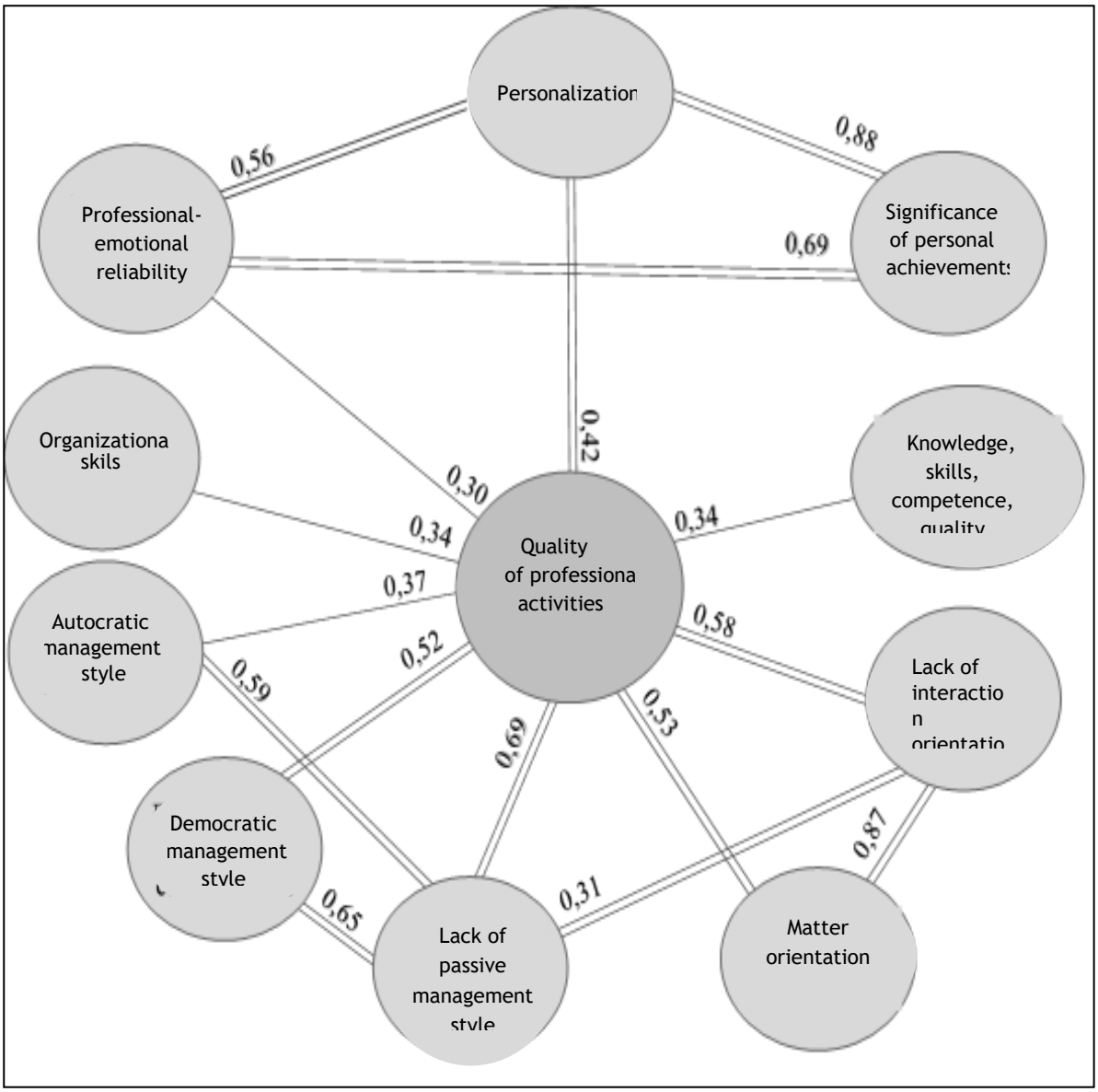

Fig. 3.11. Correlation pleiade of the quality of professional activity in AS subgroup II (6-12 years of educational experience, age 29-35 years) (the double line "=" indicates positive correlations at a ≤ 0.01, the single line "—" at a ≤ 0.05)

The core of the quality of professional activity of this subgroup includes such components that form a strong relationship with the quality of professional activity, namely: the lack of the passive management style (*r=0.69; p≤0.01)*, the lack of the formal interaction orientation (*r=0.58; p≤0.01)*, the matter orientation (*r=0.53; p≤0.01)*, the democratic management style (*r=0.52; p≤0.01)* and the personalization component (*r=0.42; p≤0.01)*.

This core is significantly strengthened by the autocratic management style (*r=0.37; p≤0.05)*, knowledge, skills, competency, qualities (*r=0.34; p≤0.05),* the organizational skills (*r=0.34; p≤0.05)* and the professional and emotional reliability (*r=0.30; p≤0.05).*

Unlike the previous one, this subgroup has a stronger relationship between the personalization component and the quality of professional activity (*r=0.42; p≤0.01),* but less between the professional and emotional reliability and the quality of professional activity (*r=0.30; p≤0.05).* However, the personalization component significantly enhance the significance of personal achievements, which forms a strong relationship with it (*r=0.88; p≤0.01),* as well as the professional and emotional reliability, which creates a connection at *r=0.56 (p≤0.01).*

The peculiarity of this subgroup of AS is that, unlike the previous group, the organizational abilities showed themselves and formed a relationship with the quality of professional activity at *r=0.34 (p≤0.05),* as well as directly the component of knowledge, skills, competency, qualities, which created a relationship with the quality of professional activity at *r=0.34 (p≤0.05).,* Therefore, they continue to acquire professional knowledge, skills, abilities and competencies to perform their professional activities even more effectively. At the same time, it is also vital for this AS subgroup to meet the needs for expressing their personality and achieving significant results in their professional activities. These aspects positively affect their emotional sphere and, through it, the quality of their professional activity.

Correlation model of the quality of professional activity of AS subgroup III (13-19 years of educational experience, age: 36-42 years). After correlation analysis, we built a pleiade to present the primary relationships and features of the quality of professional activity of AS subgroup III (Fig. 3.12).

The core of the quality of professional activity in this subgroup consists of the significance of personal achievements (*r=0.56; p≤0.01),* the professional and emotional reliability (*r=0.55; p≤0.01),* the matter orientation (*r=0.48; p≤0.01)* and the personalization component (*r=0.42; p≤0.01)*. At the same time, the significance of personal achievements, the professional and emotional reliability and the

personalization component form an effective relationship (no less than *r=0.89)* at the 1% level of statistical significance.

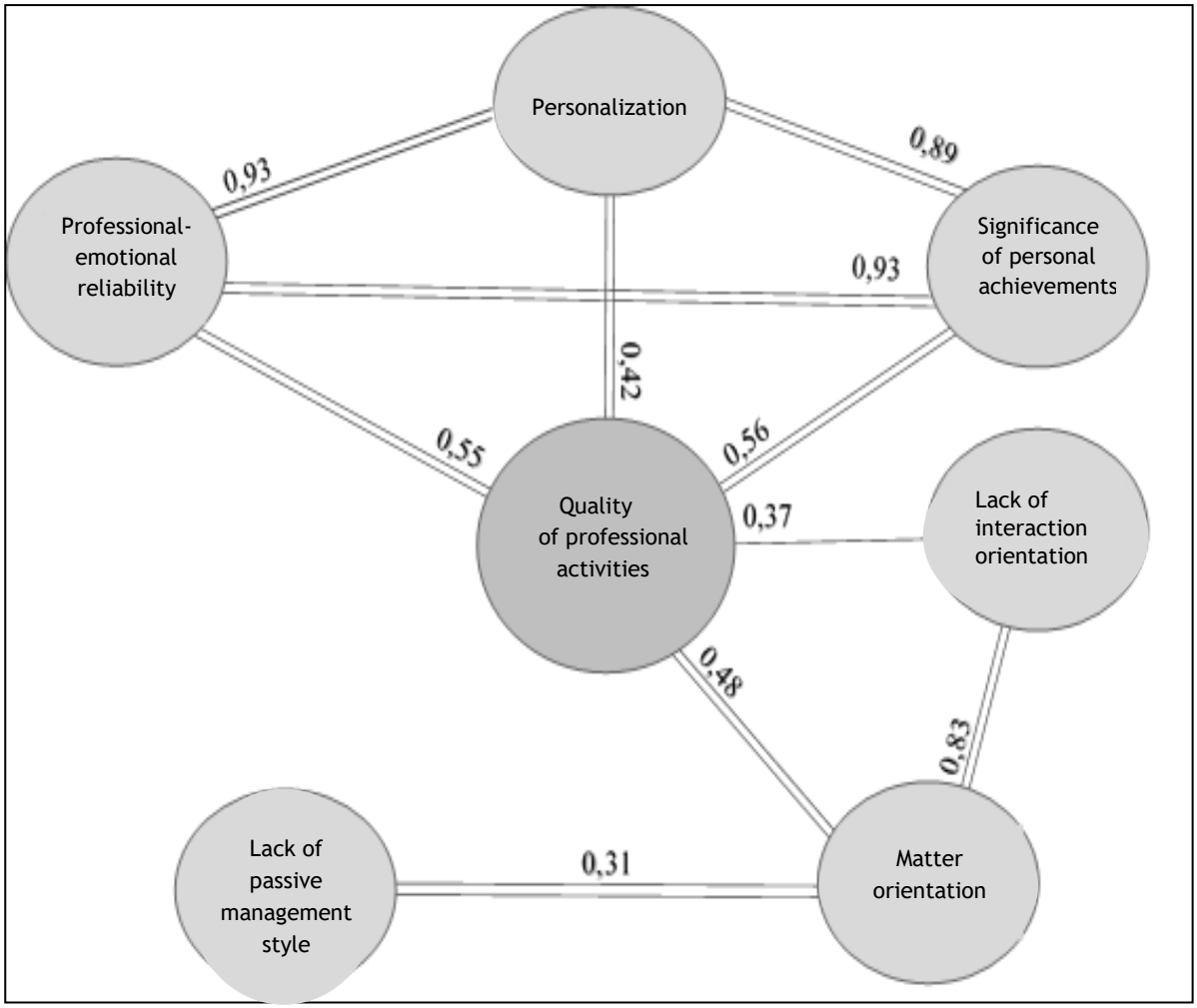

Fig. 3.12. Correlation pleiade of the quality of professional activity in AS subgroup III (13-19 years of educational experience, age 36-42 years) (the double line "=" indicates positive correlations at a ≤ 0.01, the single line "—" at a ≤ 0.05)

It suggests that this AS subgroup already has some achievements and strives to achieve high results in their professional activities. They are satisfied with themselves as personalities and obtain emotional satisfaction.

The lack of the formal interaction orientation reinforces this core component (*r=0.37; p≤0.05).* In addition, the matter orientation strongly connects with the lack of formal interaction orientation (*r=0.83; p≤0.01)*, which indicates the importance of the AS's professional orientation to obtain significant final results.

At the same time, the matter orientation depends on the lack of the passive management style (*r=0.31; p≤0.01)*, which indicates an appropriate combination of the AS's democratic and autocratic management styles for higher education applicants' educational process.

Other components influence in parvo the quality of the AS's professional activity of this subgroup. Probably because they use professional knowledge, skills and competencies that they have acquired in previous years, they believe that they have sufficiently developed organizational and communication abilities and have sufficient cognitive and volitional potential.

Correlation model of the quality of professional activity of AS subgroup IV (20-26 years of educational experience, age: 43-50 years). Using correlation analysis, we analysed the quality of professional activity of the AS subgroups IV and constructed its graphical model – a correlation pleiade (Fig. 3.13).

A psychological and mathematical analysis allows us to identify the core of the quality of professional activity of AS subgroup IV, which includes components that are related to each other at a 1% level of statistical significance, namely: the lack of the passive management style, the autocratic management style, the personalization component, the democratic management style, the significance of personal achievements and the lack of the formal interaction orientation. All of them also have their relationships stronger than 0.4.

Thus, we have a pattern in which the quality of professional activity formed a positive correlation at a high level of statistical significance with the lack of the passive management style (*r=0.69; p≤0.01)*, the autocratic management style (*r=0.61; p≤0.01),* the personalization component (*r=0.59; p≤0.01),* the democratic management style (*r=0.54; p≤0.01),* the significance of personal achievements (*r=0.51; p≤0.01)* and the lack of the formal interaction orientation (*r=0.42; p≤0.01)*.

As in AS subgroup I, the core includes the significance of personal achievements in this AS subgroup (r=0.51; p≤0.01). Professional achievements are crucial for an academic worker aged 43 to 50.

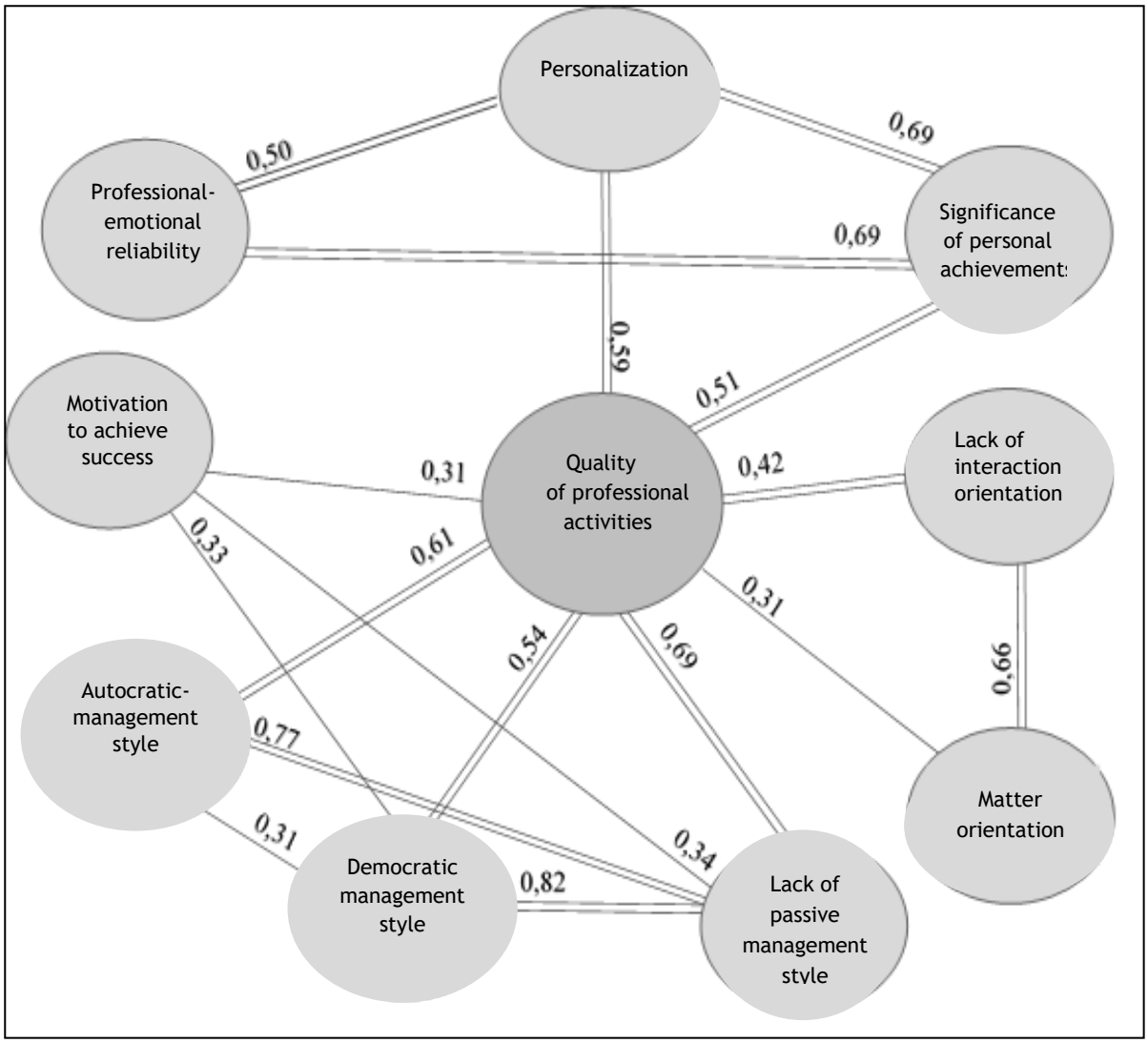

Fig. 3.13. Correlation pleiade of the quality of professional activity in AS subgroup IV(20-26 years of educational experience, age 43-50 years) (the double line "=" indicates positive correlations at a ≤ 0.01, the single line "—" at a ≤ 0.05)

There is also a stable, reasonable combination of the autocratic and democratic management styles while reducing the liberal (passive) management style to a minimum. Thus, the lack of the passive management style forms a strong relationship with the autocratic management style (*r=0.77; p≤0.01) and* the democratic management style (*r=0.82; p≤0.01),* while the autocratic management style and the democratic management style form a relationship between each other with *r=0.31 (p≤0.01).* In addition, Fig. 3.13 shows the development of the democratic management style (*r=0.33; p≤0.05*) and the lack of the passive management style (a reduction in the liberal management style) result from the motivation to achieve

success (*r=0.34; p≤0.05),* which also strengthens the core and affects the quality of professional activity (*r=0.31; p≤0.05)*. Note that the component - the motivation to achieve success, unlike the previous subgroups, showed itself for the first time in this subgroup.

Another component – the matter orientation – forms a strong relationship with the lack of the formal interaction orientation component (*r=0.66; p≤0.01)* and less weak – with the quality of professional activity (*r=0.31; p≤0.05)*, which indicates the advantage and effectiveness of the matter orientation.

Just as in the previous subgroup, the significance of personal achievements, the professional and emotional reliability and the personalization component form a fairly strong connection with each other in AS subgroup IV (at least *r=0.50)* at the 1% level of statistical significance. This means that this AS subgroup felt the need to build up the potential for professional achievements to confirm the importance of their personality and experience positive emotions and feelings against this background.

Correlation model of the quality of professional activity of AS subgroup V (27-33 years of educational experience, age: 51-57 years). Based on a correlation analysis of the results of the quality of professional activity of AS subgroup V, we identified its features, and core, and constructed a graphical correlation matrix (Fig. 3.14).

In this correlation matrix, the core of the quality of professional activity of AS subgroup V (27-33 years of teaching experience, age: 51-57 years) includes the components that are related to each other at the 1% level of statistical significance: the professional and emotional reliability, the significance of personal achievements, personalization, and the lack of the passive management style.

In general, we have a core where the quality of professional activity formed a positive correlation with the significance of personal achievements (*r=0.71; p≤0.01),* the professional and emotional reliability (*r=0.67; p≤0.05),* personalization (*r=0.54; p≤0.01)* and the lack of the passive management style (*r=0.49; p≤0.01) at a high level of statistical significance.*

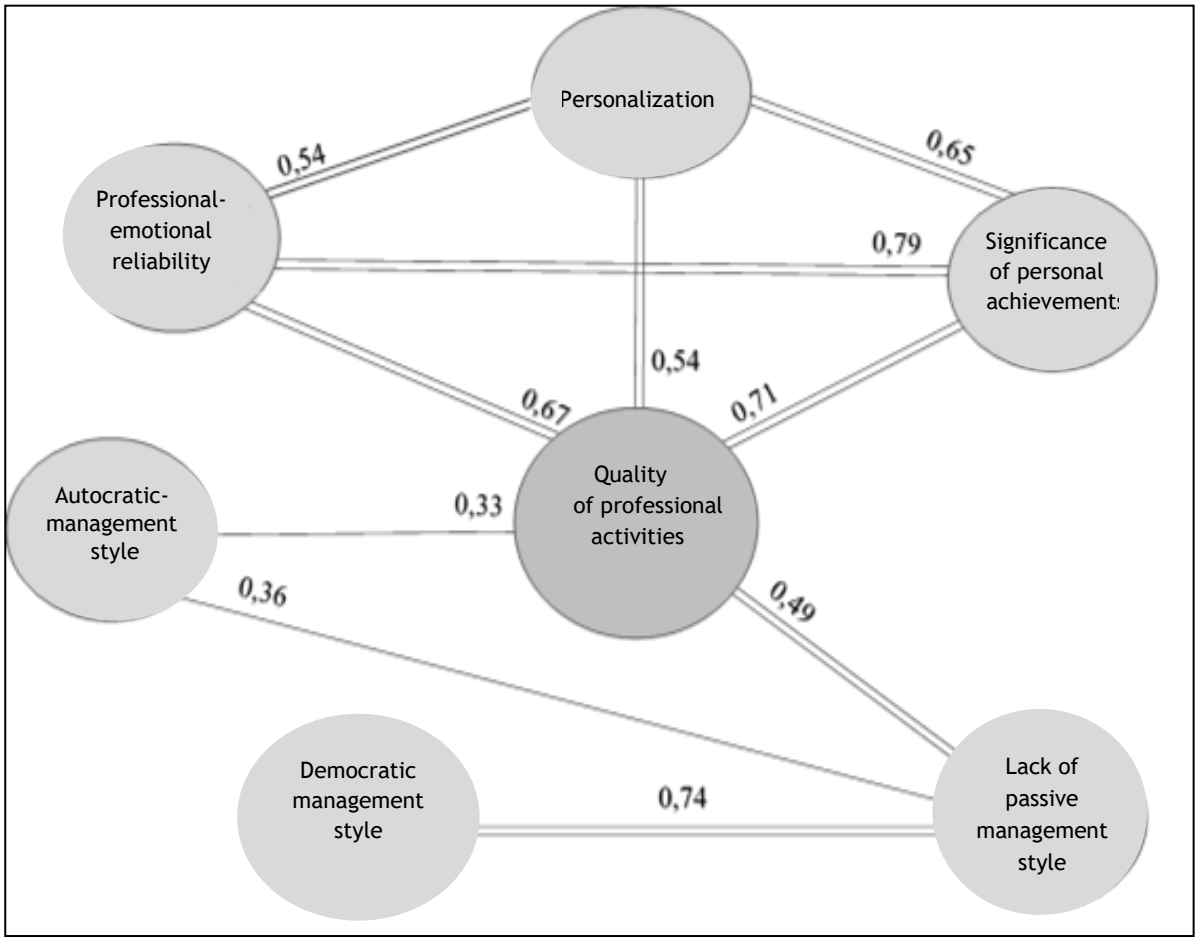

Fig. 3.14. Correlation pleiade of the quality of professional activity in AS subgroup V (27-33 years of educational experience, age 51-57 years) (the double line "=" indicates positive correlations at a ≤ 0.01, the single line "—" at a ≤ 0.05)

In common with the previous two subgroups, the professional and emotional reliability, the personalization component and the significance of personal achievements, form a strong relationship with each other in this AS subgroup at the 1% level of statistical significance. Thus, the professional and emotional reliability forms a strong relationship (*r=0.79; p≤0.01) with the significance of personal achievements*, while it is *r=0.54 (p≤0.01) with the personalization component.* The significance of personal achievements and the personalization component form a relationship *r=0.65 (p≤0.01).*

Thus, a high assessment of their personality and the potential for professional achievements are essential for AS subgroup V. Together, they restrain the process of

their emotional burnout, i.e. support their professional and emotional reliability at a certain level.

In AS subgroup V, the lack of the passive (liberal) management style strengthens the democratic management style, as indicated by their strong positive relationship *r=0.74 (p≤0.01).* At the same time, the lack of the passive management style is associated with the autocratic management style (*r=0.36; p≤0.05),* which, in turn, has a direct relationship with the quality of professional activity (*r=0.33; p≤0.05).* It turns out that AS becomes more democratic at the age of 51-57 years, having a teaching experience of 27 to 33 years, which does not always mobilize and organize applicants for higher education to perform the tasks of the educational process on time.

Correlation model of the quality of professional activity of AS subgroup VI (34-40 years of educational experience, age: 58-65 years). A correlation analysis of the quality of professional activity of AS subgroup VI allowed us to model a correlation pleiade of professional activity quality and analyse the leading properties of this phenomenon (Fig. 3.15).

The core of the quality of professional activity of AS subgroup VI includes the following components: the significance of personal achievements, the matter orientation, the personalization, the professional and emotional reliability, the lack of the passive management style, the lack of the formal interaction orientation and the lack of the self-orientation. All these components are related to each other at the 1% level of statistical significance. Thus, there is a core where the quality of professional activity forms a positive correlation with the significance of personal achievements (*r=0.67; p≤0.01),* the matter orientation (*r=0.62; p≤0.01),* the personalization (*r=0.60; p≤0.01),* the professional and emotional reliability (*r=0.58; p≤0.05),* the lack of the passive management style *r=0.48; p≤0.01),* the lack of the formal interaction orientation (*r=0.47; p≤0.01)* and the lack of the self-orientation (*r=0.45; p≤0.01).*

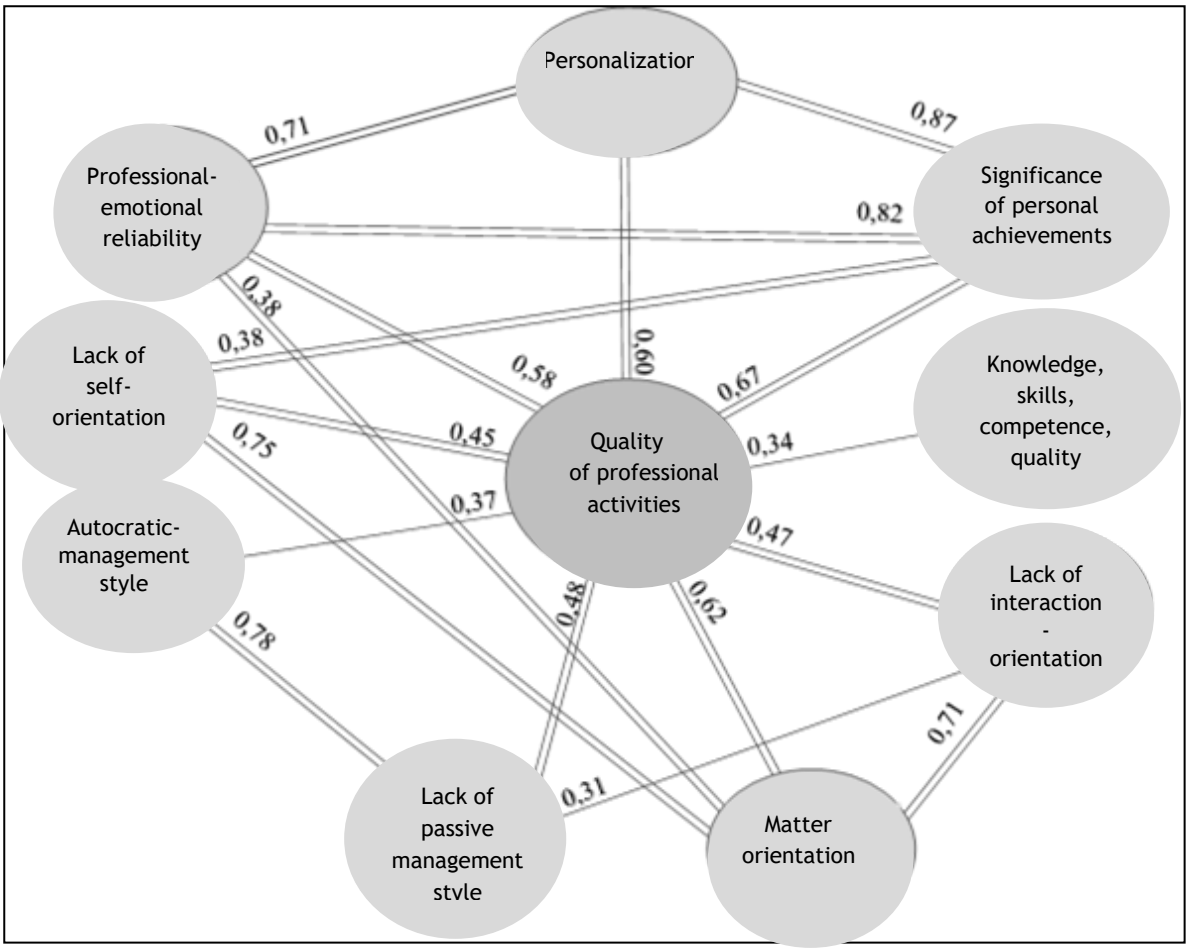

Fig. 3.15. Correlation pleiade of the quality of professional activity in AS subgroup VI (34-40 years of educational experience, age 58-65 years) (the double line "=" indicates positive correlations at a ≤ 0.01, the single line "—" at a ≤ 0.05)

In this subgroup, the AS is even more powerful than in the previous one. It forms a positive relationship of a trio of repeated components – the professional and emotional reliability, the personalization and the significance of personal achievements. Actually, the professional and emotional reliability forms a strong relationship with the significance of personal achievements (*r=0.82; p≤0.01),* and with the personalization component (*r=0.71; p≤0.01).* In turn, the personalization component and the significance of personal achievements also form a strong relationship *r=0.87 (p≤0.01).* Consequently, this AS subgroup is too emotionally sensitive to the recognition of their professional achievements by others. They require respect and their opinion to be taken into account.

The quality core of professional activity of AS subgroup VI strengthens the autocratic management style, which forms a relationship with the quality of professional activity *r=0.37 (p≤0.05).* In contrast, knowledge, skills, competency, and qualities are related to the quality of professional activity *r=0.34 (p≤0.05).*

Having analysed the difference between the core of this subgroup and others, we note that the professional orientation has a top place for the first time, in addition to the significance of personal achievements, the personalization component and the professional and emotional reliability, manifested, in fact, in every core. It manifests itself in all three parts - the matter orientation, the lack of formal interaction orientation and the lack of self-orientation. This means that at the age of 58-65 years, having a teaching experience of 34 to 40 years, the AS does not go for easy popularity, avoid vapid conversations, formal interaction that does not bring benefits but are focused on achieving results in the educational process. The matter orientation indicates this, forming a solid positive relationship with the lack of the formal interaction orientation (*r=0.71; p≤0.01)* and the lack of the self-orientation (*r=0.75; p≤0.01).* At the same time, the autocratic management style in higher education applicants' educational process predominates the democratic one in AS subgroups VI, in contrast to AS subgroup V. This results from the lack of the passive management style (*r=0.78; p≤0.01),* which also forms a relationship with the lack of the formal interaction orientation (*r=0.31; p≤0.05).* This again emphasizes the purposefulness, efficiency, specificity and, of course, pedagogical skill of AS VI subgroups who avoid excessive activity that does not benefit the educational process.

Correlation model of the quality of professional activity of AS subgroup VII (more than 40 years of educational experience, age: older than 65 years). Correlation analysis of the quality of professional activity of AS subgroup VII allowed us to highlight the core of this phenomenon and graphically depict this process (Fig. 3.16).

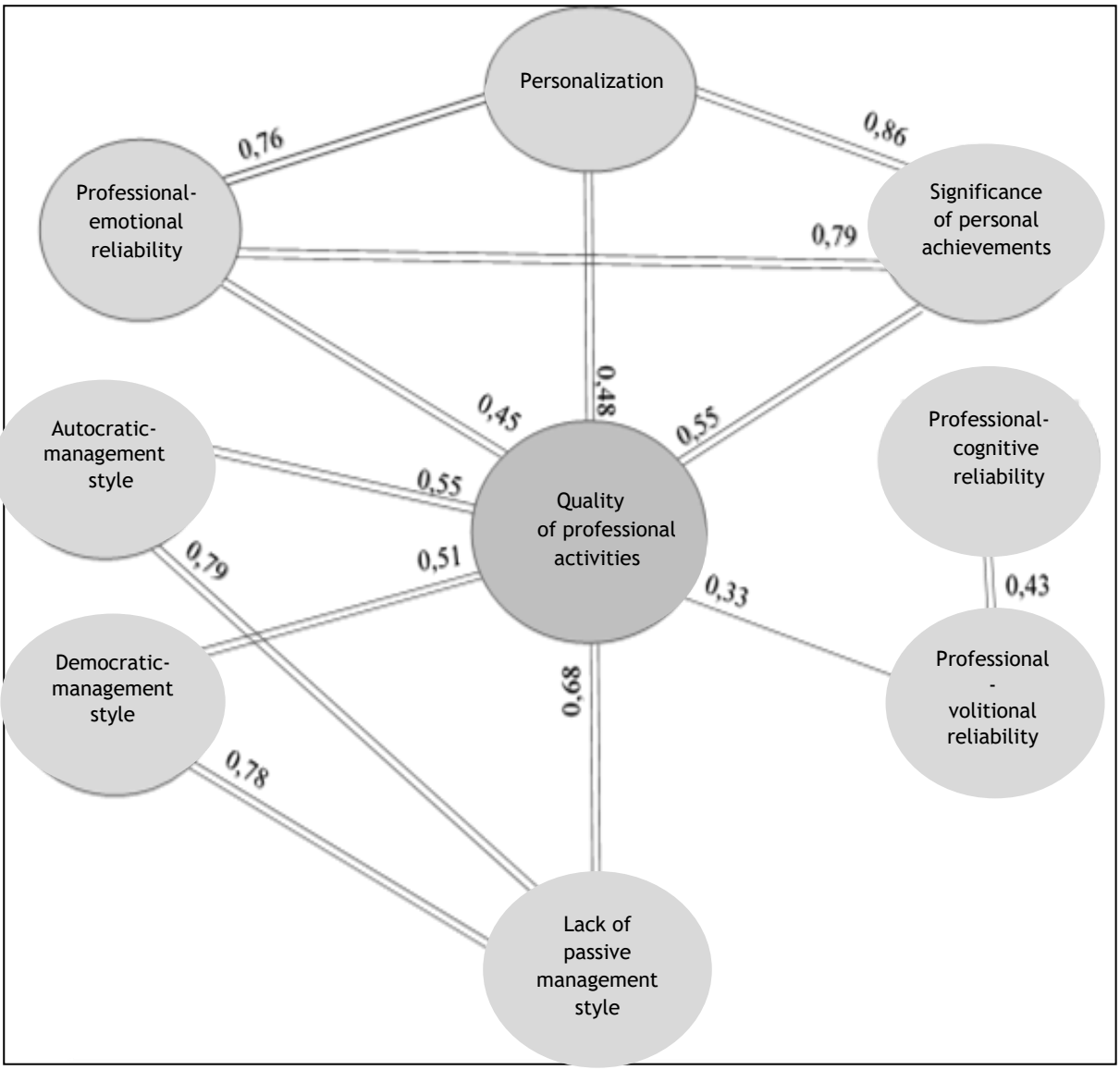

Fig. 3.16. Correlation pleiade of the quality of professional activity in AS subgroup VII (more than 40 years of educational experience, age more than 65 years) (the double line "=" indicates positive correlations at a ≤ 0.01, the single line "—" at a ≤ 0.05)

In the AS subgroup VII, the core composition differs just like in other subgroups. It includes the lack of the passive management style, the significance of personal achievements, the autocratic management style, the democratic management style, the personalization component and the professional and emotional reliability, related at the 1% level of statistical significance. At the same time, the quality of professional activity formed a positive relationship with the lack of passive management style (*r=0.68; p≤0.01),* the significance of personal achievements

(*r=0.55; p≤0.01),* the autocratic management style *r=0.55; p≤0.01)*, the democratic management style (*r=0.51; p≤0.01),* the personalization component (*r=0.48; p≤0.01)* and the professional and emotional reliability (*r=0.45; p≤0.05).*

Again, the core contains the trio of components presented in almost all subgroups - the personalization component, the professional and emotional reliability and the significance of personal achievements.

At the same time, the component professional-volitional reliability strengthens the core of the quality of professional activity of AS subgroup VII for the first time out of all subgroups, which forms a relationship with the quality of professional activity *r=0.33 (p≤0.05).* However, the professional and cognitive reliability must influence the professional and volitional reliability (*r=0.43;p≤0.01).* These last two components are evidence that this AS subgroup shows volitional efforts to implement the educational process aimed to master and apply new knowledge, skills, technologies, and methods to ensure the quality of the educational process.

Thus, we conducted an experimental study to determine the level of development of the quality of professional activity in scientific and pedagogical workers and their subgroups formed by teaching experience and age. We found the development of the quality of the AS's professional activity in our sample: in 26 (8.44%) people at the below-average level; in 241 (78.25%) people at the average level; in 43 (13.31%) people at the above-average level.

The authors found a difference in the quality of professional activity of the AS subgroups formed by age and teaching experience.

CONCLUSIONS

1. Based on the results of theoretical and methodological analysis of professional training of applicants for higher education and professional activity of subjects of educational activity in higher education institutions, the authors have substantiated the criteria for the quality of professional activity of a scientific and pedagogical worker at the present stage of human development. These criteria are grouped to reflect the level of professional activity of a scientific and pedagogical worker at the current stage of human evolution: 1) mastering the world's most modern knowledge, skills and competencies and the ability to continuously improve them, including through studying foreign sources in original languages, the selection of the most valuable and practical implementation in the educational process; 2) the presence and use of professionally critical personal qualities and abilities in educational activities; 3) possession of digital technologies, skilful use of computer equipment and the Internet, various computer programs, the ability to work on-line; 4) the ability to search for the latest (advanced) forms, methods, pedagogical, didactic and information technologies; 5) motivation 6) the ability to effectively organize and manage the educational process of higher education applicants, communicate with them; 7) the ability to build with higher education applicants such a vector of professional orientation that brings the most significant benefit to the educational process and ensures their achievement of high learning results; 8) psychological and pedagogical professional reliability, which prevents the development of professional burnout and deformation.

2. We have proved that the quality of professional activity of a scientific and pedagogical worker is an integrative indicator of its effectiveness. They direct their action in content, educational functions and tasks of its controlled, motivated, emotionally positive psychological and pedagogical interaction with applicants for higher education, the full implementation of their knowledge, skills, general and professional competencies, abilities, personal properties and qualities. It musters arguments that the psychological and pedagogical model of the quality of

professional activity of scientific and pedagogical worker, represents a system of psychological and pedagogical elements (units) with specified characteristics and properties, which correctly correspond in their value, purpose and time. They reproduce the process of providing and maintaining a high level of professional knowledge, skills, general and professional competencies, personal qualities and self-organization, professional abilities, professional orientation and activity, motivation for effective professional action and psychological and pedagogical professional reputation in interaction with applicants for higher education.

3. The psychological and pedagogical model of ensuring the quality of AS's professional activity includes the following interrelated functional blocks: 1) the knowledge-competency-personal module, which maintains the academic staff's knowledge, skills, competencies, personal qualities and reputation at a proper level; 2) the professional-motivational module, which motivates to achieve success in professional activities; 3) the professional-managerial module, which effectively manages the higher education process; 4) the professional-orientational module, which ensures its positive professional orientation; 5) the professional-constructive module, which shapes its psychological and pedagogical reputation, as well as prevents occupational hazards.

4. Structurally, this model contains several components, which, interacting with each other, ensure the quality of professional activity of a scientific and pedagogical worker. These components are: in the knowledge-competency-personal module: 1) a set of knowledge, skills, competencies, necessary qualities and their practical implementation in the educational process; 2) communication skills; 3) organizational skills; in the professional and motivational module: 1) motivation to succeed; 2) lack of motivation to avoid failure; in the professional and managerial module: 1) autocratic management style of the educational process of higher education applicants; 2) democratic management style; 3) lack of passive management style of the educational process; in the professional-orientational module: 1) lack of self-orientation; 2) lack of formal interaction orientation; 3) matter orientation; in the professional-constructive module: 1) professional and

cognitive reliability, antithetic to professional and cognitive burnout; 2) professional and volitional reliability, antithetic to professional-volitional burnout; 3) professional-emotional reliability, antithetic to professional and emotional burnout; 4) personalization, antithetic to depersonalization; 5) significance of personal achievements, antithetic to reduction of personal achievements.

5. The level of professional activity of each scientific and pedagogical employee of the sample is empirically determined based on the assessment of its components. Based on the results of the correlation analysis, it is established that the psychological and pedagogical model of the quality of professional activity of a scientific and pedagogical worker is based on a core, which contains several components. These components relationships with the quality of professional activity at the level of 1%, namely: 1) matter orientation; 2) autocratic management style; 3) lack of passive management style; 4) professional and emotional reliability; 5) personalization; 6) significance of personal achievements.

6. The authors found a difference in the quality of professional activity of the AS subgroups formed by age and teaching experience. Thus, the core of the quality of the AS's professional activity includes the following components: Subgroup I (1-5 years of teaching experience, age: 23-28 years) – no passive management style, the democratic management style, the matter orientation, no formal interaction orientation and the autocratic management style. The professional and emotional reliability enhances the components; Subgroup II (6-12 years of teaching experience, age: 29-35 years) – no passive management style, no formal interaction orientation, the matter orientation, the democratic management style and the personalization component, enhanced by the autocratic management style, knowledge, skills, competency qualities, the organizational part and the professional-emotional reliability; Subgroup III (13-19 years of teaching experience, age: 36-42 years) – the significance of personal achievements, the professional and emotional reliability, the matter orientation and the personalization component, enhanced by the lack of the passive management style, the democratic management style, the lack of the formal interaction orientation; Subgroup IV (20-26 years of teaching experience, age: 43-50

years) – the personalization component, the lack of the passive management style, the democratic management style, the autocratic management style, the lack of the formal interaction orientation and the significance of personal achievements; Subgroup V (27-33 years of teaching experience, age: 51-57 years) – the professional-emotional reliability, the personalization component, the significance of personal achievements and the lack of the passive management style, enhanced by the democratic management style of higher education applicants' educational process; VI subgroups (34-40 years of teaching experience, age: 58-65 years) – the matter orientation, the significance of personal achievements, the personalization", the lack of the passive management style, the professional-emotional reliability, the lack of the self-orientation and the lack of the formal interaction orientation, enhanced by the autocratic management style and knowledge, skills, competency, qualities; Subgroup VII (more than 40 years of teaching experience, age: older than 65 years). – the lack of the passive management style, the autocratic management style, the democratic management style, the significance of personal achievements, the personalization and the professional-emotional reliability, enhanced by the professional-volitional reliability, influenced by the professional-cognitive reliability.

7. We see the prospects for further research in conducting extensive studies in the following areas: 1) to search for the most significant criteria for the quality of professional activity of scientific and pedagogical workers under the influence of continuous development and updating of knowledge, forms, methods and technologies of educational activities; 2) to prevent and eliminate professional burnout in scientific and pedagogical workers, deformation of their personal qualities and properties, professional knowledge and competencies, etc.

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ANNEX A

AS Professional and Cognitive Burnout Assessment Methodology (Yu. M. Terletska)

Full name_____

Age_____ Teaching experience_____

Gender_____

Instructions

You are offered different statements. Please read each of them carefully, but do not think about the answer for a long time, because they are all correct. If you agree with a statement completely, then put a cross in the same line against "Yes". If you largely agree, then put a cross in the line against "Rather Yes". If you largely disagree, then put a cross in the line against "Rather No". If you disagree entirely, then put a cross in the line against "NO".

No. Ser.	Statement	Yes	Rather Yes	Rather No	No
1.	I think quickly and efficiently during classes				
2.	I look for the most effective forms and methods for each class with students				
3.	I cannot think as fast and efficient as I used to				
4.	It is difficult for me to perceive new methods and technologies in the educational process				
5.	I can solve any new intellectual tasks related to the educational process.				
6.	I lack the knowledge to constantly learn new applications and information technologies and use them during the educational process.				
7.	It is difficult for me to give online classes effectively.				
8.	Knowledge changes so quickly in the modern information society that I do not have time to absorb and implement it in the educational process				
9.	It is challenging me to do academic work in the current conditions.				
10.	I do not have any new scientific ideas anymore				
11.	I have no desire to change anything in the educational process.				
12.	Until now, I cannot fully use the information resources created by the higher education institution.				
13.	I use old-proven forms and methods of giving classes.				

No. Ser.	Statement	Yes	Rather Yes	Rather No	No
14.	Now I need more time to master new professional knowledge than a few years ago.				
15.	I cannot learn in time those new information technologies and applications that are necessary for professional activity in modern conditions				
16.	I very rarely have a creative imagination and creative thinking.				
17.	I like to constantly search for and test new methods and techniques that can be used in my professional activities.				
18.	It is difficult for me to master modern methods of evaluating student's learning outcomes.				
19.	I cannot learn English to work effectively in the world's scientometric databases.				
20.	It is getting harder for me to write scientific papers.				
21.	I do not use information resources on the Internet during classes.				
22.	I rarely use any information and technical means during classes.				
23.	I believe that the old forms and methods of classes are more effective than modern ones.				
24.	I prefer classical forms of lectures, seminars and practical classes with students				
25.	Older methods of evaluating students' learning outcomes are more effective than modern ones.				
26.	Often I cannot assess the quality of students' answers when they use additional material from the Internet.				
27.	Often I cannot determine the reasons for the low level of knowledge acquisition by students who constantly attended classes.				
28.	I have a bad memory now.				

Analysis of results. The AS Professional and Cognitive Burnout Assessment Methodology includes 28 direct and converse statements that allow us to identify AS's professional and cognitive burnout (*id1*).

Each answer to a particular statement corresponds to a certain number of points from 0 to 3. Since the AS Professional and Cognitive Burnout Assessment Methodology has direct and converse statements, they correspond to the following number of points (Table. A.1).

The development level of AS's professional and cognitive burnout is determined either using the coefficient of professional and mental burnout (*Cid1*) or by the number of points for each statement from 1 ... 28 (see Table. A.1).

Table A. 1

Points for various statements by the AS Professional and Cognitive Burnout Assessment Methodology

Professional and Cognitive Burnout *(id1)*	**Statement**	**Statement number**	**Points per statement**			
			Yes	**probably Yes**	**probably No**	**No**
id1	statements indicating the presence of deprivation (direct)	3-4; 6-16; 18-28	3	2	1	0
	statements indicating the lack of deprivation (converse)	1-2; 5; 17	0	1	2	3

The development coefficient of AS's professional and cognitive burnout (*Cid1*) is determined according to the author's AS Professional and Cognitive Burnout Assessment Methodology. It reflects the level of its development based on a numerical value within $0 \leq Cid1 \leq 1$. It is the ratio of the sum of points obtained using this method to the maximum possible number of points for which the highest level of AS's professional and cognitive burnout is available and is calculated by the formula

$$Cid1 = \frac{\sum id1_{(1\ldots28)}}{84}, \qquad (A.1)$$

$Cid1 = \frac{\sum id1_{(1\ldots28)}}{84}$

where $\sum id1_{(1\ldots28)}$ is the sum of points received for all statements that reflect the professional and cognitive burnout according to this method (see Table. A.1);

84 - the maximum possible number of points for 28 positions, which is 28×3 = 84, when determining the professional and cognitive burnout using this method.

AS's professional and cognitive burnout of research and teaching staff can have the following levels of development:

1) low: when *Cid1* = 0÷0.2 (or 0 – 16.5 points);
2) below-average: when *Cid1* = 0.21÷0.4 (or 16.5 – 33 points);
3) average: when *Cid1* = 0.41÷0.6 (or 33.5 – 50 points);
4) above-average: -when *Cid1* = 0.61÷0.8 (or 50.5 – 67 points);
5) high: when *Cid1* = 0.81÷1 (or 67.5 – 84 points).

Annex B

AS Professional Burnout and Volitional Exhaustion Assessment Methodology

Full name_____

Age_____Teaching experience_____

Gender_____

Instructions

You are offered different statements. Please read each of them carefully, but do not think about the answer for a long time, because they are all correct. If you agree with a statement completely, then put a cross in the same line against "Yes". If you largely agree, then put a cross in the line against "Rather Yes". If you largely disagree, then put a cross in the line against "Rather No". If you disagree entirely, then put a cross in the line against "NO".

No. Ser.	**Statement**	**Yes**	**Rather Yes**	**Rather No**	**No**
1.	I am always organized and disciplined at work.				
2.	I always complete work that I am not interested in, but is necessary for the educational process.				
3.	I am systematically engaged in scientific activities and have already achieved specific results.				
4.	At department meetings, I often have my own opinion, but I do not dare to voice it to the head of the Department.				
5.	Often I cannot bring myself to work on an urgent task.				
6.	Often I cannot push myself to redo the content of a training session that I conducted in previous academic years.				
7.	I do not have the patience to explain the same thing to students in different groups.				
8.	Often I cannot bring myself to hear students out.				
9.	I do not have enough determination and perseverance to achieve better results in my educational activities.				
10.	I do not have the patience to check every student's term or test paper in detail.				
11.	I do not have the patience to understand any new application or information technology.				
12.	It often happens to me that I cannot start urgent work on time.				
13.	I can no longer work as hard to solve any scientific or educational problem as I did recently.				

No. Ser.	Statement	Yes	Rather Yes	Rather No	No
14.	If there are conflicts with students, I often cannot control myself and take it out.				
15.	I often do not have enough time to complete all the tasks related to my professional activity.				
16.	I no longer have the activity and perseverance in my professional activities that I once had.				
17.	In a conflict situation, I cannot control myself to assess it with maximum objectivity.				
18.	I often cannot get out of bed on time at the time set the day before.				
19.	I always plan my work and stick to the plan.				
20.	If I need to master an application or information technology for the educational process, I work until I achieve the desired result.				
21.	When there are a lot of tasks, I give up.				
22.	Nothing will make me put off an urgent task until tomorrow if I need to do it today.				
23.	I cannot control myself and "take it out" when I'm seriously offended.				
24.	I cannot control my anger when students say stupid things in class.				
25.	I always develop all the methodological support for my academic disciplines on time.				
26.	I always complete all the management tasks regarding students' educational process on time.				
27.	I am never late for classes or other events at my higher education institution.				

Analysis of results. The AS Professional Burnout and Volitional Exhaustion Assessment Methodology includes 27 direct and inverse (inverse) statements that allow us to identify AS's professional-volitional burnout (*dw1*).

Each answer to a particular statement corresponds to a certain number of points from 0 to 3. Since the AS Professional Burnout and Volitional Exhaustion Assessment Methodology has direct and converse statements, they correspond to the following points (Table. B.1).

Table B.1

Points for different statements by the AS Professional Burnout and Volitional Exhaustion Assessment Methodology

AS's Professional and volitional burnout *(dw1)*	**Statement**	**Statement number**	**Points per statement**			
			Yes	**probably Yes**	**probably No**	**No**
dw1	statements indicating the presence of professional-volitional burnout (direct)	4-18; 21; 23-24	3	2	1	0
	statements indicating the lack of professional-volitional burnout (converse)	1-3; 19-20; 22; 25-27	0	1	2	3

The development level of AS's professional-volitional burnout is determined either using the coefficient of professional-volitional burnout (*Cdw1*) or the number of points for each statement from 1 ... 27 (see Table. B.1).

The development coefficient of AS's professional and volitional burnout (*Cdw1*) is the ratio of the sum of points obtained using this method to the maximum possible number of points at which the highest level of AS's professional-volitional burnout is available and calculated by the formula

$$Cdw1 = \frac{\sum dw1_{(1\ldots27)}}{81}, \qquad (Б.1)$$

$Cdw1 = \frac{\sum dw1_{(1\ldots27)}}{81}$

where $\sum dw1_{(1\ldots27)}$ is the sum of points received for all statements that reflect the professional-volitional burnout according to this method (see Table. B.1);

81 is the maximum possible number of points for 27 positions, 27×3 = 81 when determining the professional-volitional burnout using this method.

AS's professional-volitional burnout can have the following levels of development:

1) low: when *Cdw1* = 0÷0.2 (or 0 – 16 points);
2) below-average: when *Cdw1* = 0.21÷0.4 (or 17 – 32 points);
3) average: when *Cdw1* = 0.41÷0.6 (or 33 – 49 points);
4) above-average: when *Cdw1* = 0.61÷0.8 (or 50 – 65 points);
5) high: when *Cdw1* = 0.81÷1 (or 66 – 81 points).

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