ПСИХОЛОГИЧЕСКАЯ НАУКА И ОБРАЗОВАНИЕ

PSYCHOLOGICAL SCIENCE AND EDUCATION

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Contents

Содержание

—— EDUCATIONAL PSYCHOLOGY | ПСИХОЛОГИЯ ОБРАЗОВАНИЯ ——

Federal Network of Psychological Services of Educational Institutions of Higher Education: Concept, Priorities and Development Resources

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The concept of the development of psychological support for higher educa-tion is revealed. Scientific arguments in favor of a federal network model for organizing qualified psychological assistance to students and teaching staff of universities are presented. The results of the population study conducted by the Russian Academy of Education with the participation of 21,943 first-year students from 22 Russian universities are reported. These results indicate a moderate degree of severity of emotional states of increased excitability, personal anxiety and a tendency to depressive manifestations among stu-dents. The priority areas of work on the development of the federal network of psychological services of universities are presented. The implementation of these areas is designed to systematically address the issues of accessibility of psychological assistance for students and teaching staff of each university, the high quality and completeness of the spectrum of such assistance. It is re-ported that with a network organization with a coordinating resource center, the psychological support of higher education will be characterized by the unity of the federal space for solving the problems of emergency professional response in providing psychological assistance to students and teaching staff.

Keywords: federal network of psychological services of universities, higher education, mental health service, educational psychological services, student counseling centers, psychological well-being, positive socialization, Russian students, individual differences, researchers and teaching staff.

Basyuk V.S., Malykh S.B., Tikhomirova T.N. Federal Network of Psychological Services of Educational
Institutions of Higher Education: Concept, Priorities and Development Resources
Psychological Science and Education. 2022. Vol. 27, no. 6

Федеральная сеть психологических служб образовательных организаций высшего образования: концепция, приоритеты и ресурсы развития

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Раскрывается концепция развития психологического сопровождения высшего образования и излагаются научные аргументы в пользу сетевой модели организации квалифицированной психологической помощи студентам и педагогическим работникам вузов. Приводятся результаты популяционного исследования Российской академии образования с участием 21943 студентов первых курсов из 22 российских вузов, свидетельствующие о степени выраженности эмоциональных состояний повышенной возбудимости, тревожности и склонности к депрессивным проявлениям. Представлены приоритетные направления работы по развитию федеральной сети психологических служб вузов, реализация которых призвана системно решать вопросы доступности психологической помощи для студентов и работников каждого российского вуза, высокого качества и полноты спектра такой помощи. Сообщается, что при сетевой организации с координирующим ресурсным центром психологическое сопровождение высшего образования будет характеризоваться единством федерального пространства, решающим задачи быстрого профессионального реагирования при оказании психологической помощи студентам и преподавателям.

Ключевые слова: федеральная сеть психологических служб вузов, высшее образование, психологическая служба вуза, психологическое сопровождение образования, психологическая помощь студентам, психологическое благополучие, позитивная социализация, современное российское студенчество, индивидуальные различия, научно-педагогические работники.

Relevance, Social and Individual Demand for Psychological Support of Higher Education

Admission to a higher educational institution for "yesterday's" secondary school student is one of the most important and, at the same time, critical stages in the life of a young person, which largely determines identity development, the efficiency of intellectual potential implementation and professional achievements throughout career [18].

Actually, a young person entering a university often has a complete lifestyle change, starting from moving to a new place of residence and independently resolving issues of financial self-sufficiency to the need to successfully adapt to a new team and cope with increased academic workloads. Modern higher education places increased demands on students, associated with the need to assimilate large amounts of educational material and perform diverse tasks in a short time, compliance with the criteria of university ratings of academic achievements, sometimes in tough competitive conditions, adaptation to a variety of teachers and their styles of presenting material, independent life planning, etc.

These requirements of a new university educational environment for a first-year student, in turn, entail the need for a serious actualization of individual psychological resources — stable cognitive functioning, formed skills for regulating behavioral reactions, the ability to control one's emotional state, and a stable internal position [1; 2; 5]. Otherwise, in case of inability, impossibility, or misunderstanding of the need to mobilize individual resources, a state of academic (educational) stress arises, including chronic, due to negative emotional states caused by the need to constantly comply with the deadlines for submitting work, poor academic performance and low rating position, anxiety, tension and fears of exam sessions, etc.

According to studies in psychology and related scientific knowledge, there are significant individual differences between students in the manifestation of problematic emotional states, behavioral reactions, peculiarities of cognitive functioning, and regulatory properties [13]. For instance, the results of a large-scale study involving 21,943 first-year students from 22 universities in the Russian Federation, conducted by specialists from the Russian Academy of Education under the guidance of S.B. Malykh indicate that every fifth freshman aged 17 to 22 reports some kind of emotional and/or behavioral problems.

Specifically, according to this population-based study of Russian students, 20.9% of the first-year students have emotional problems associated with increased excitability, a tendency to depressive states, frequent mood swings, and anxiety. Herewith, almost 9% of young people have behavioral problems already in their first year of study, expressed, among other things, in interaction with classmates and teachers. Considering the negative impact of these problems on the learning process at the university, primarily on the students' individual academic progress and the implementation of their intellectual-personal potential, the task of maintaining the psychological well-being of modern students becomes relevant.

To help the student competently cope with emotional and behavioral problems that impede the process of effective studying at the university, to provide qualified psychological support in a situation of personal crisis, and, if necessary, to promote comprehensive psychological-medical-social assistance, are the main tasks of developing and improving the psychological support of higher education. These tasks are consonant with the national priorities of the Russian Federation until 2030, defined by the Decree of the President of the Rus-

Basyuk V.S., Malykh S.B., Tikhomirova T.N. Federal Network of Psychological Services of Educational
Institutions of Higher Education: Concept, Priorities and Development Resources
Psychological Science and Education. 2022. Vol. 27, no. 6

sian Federation, primarily in terms of maintaining the health and well-being of people, creating opportunities for self-realization and development, as well as organizing a comfortable and safe environment for life.

The problem of developing psychological support for education acquired particular relevance during the COVID-19 pandemic, which affected the entire population of the planet and affected almost all aspects of the life of citizens — the economy, politics, healthcare, education, and social protection. The enforcement of measures to counteract the spread of COVID-19 infection affected students at all levels of education. In reference to the United Nations Educational, Scientific and Cultural Organization (UNESCO), during the COVID-19 pandemic, more than 100 countries completely closed educational organizations — schools, colleges, lyceums, and universities, deprived more than half of the world's students of the opportunity to attend classes. (http://ru.unesco. org/covid19/educationresponse).

According to scientific research, the coronavirus infection pandemic has brought mass problems of psychological nature, which entailed, among other things, the emotional distress of students [12]. Moreover, there are predictions of an increase in deviant behavior manifestations among young people in a period far beyond the actual pandemic [16; 20]. The abrupt transition to distance learning as a measure to counter the spread of coronavirus infection only exacerbated the psychological difficulties for all participants in educational relations — students, researchers, teaching, and administrative staff [12; 14; 17].

The most sensitive to the situation of forced distance learning, social exclusion, and travel restrictions is the category of college and university students (for example, [21]). According to the study, with media basis analysis of the abnormal behavior of students of Russian universities, there is a specific manifestation of behavioral problems of young people studying at universities, in contrast to the general population [10]. First of all, it is noted: the peak number of manifestations of auto-aggressive behavior of first-year students of universities, the greater exposure of young men to such problems, and the unevenness of cases of abnormal behavior during the academic year, associated with the start of studies and examination sessions [10].

Scientific research data, as well as publicly resonant cases of abnormal behavior among student youth, confirm the urgent need to improve the psychological support of the learning process in the higher education system, taking into consideration the individual psychological characteristics of modern students.

The Current State
of the Psychological Support
of Higher Education

According to the Department of State Youth Policy and Educational Activities of the Ministry of Science and Higher Education of the Russian Federation, the current state of the psychological support of higher education is characterized by the following main problems that require urgent system solutions.

Only 21.9% of all universities that took part in the survey (93.6% of the total number of universities under the jurisdiction of the Ministry of Science and Higher Education of Russia) have a functioning psychological service as a separate structural unit with a designated staffing of more than one employee. In most universities (55.3%) there is 1 psychologist, or there is a rest room without a full-time psychologist, or the performance of duties for psychological support is entrusted to an employee of the department of psychology, the department of cultural work, a sanatorium, a student association, etc. 22.8% of universities declare that there is no possibility of provid-

Басюк В.С., Малых С.Б., Тихомирова Т.Н. Федеральная сеть психологических служб
образовательных организаций высшего образования: концепция, приоритеты и ресурсы развития
Психологическая наука и образование. 2022. Т. 27. № 6

ing psychological assistance to students, researchers and teaching staff. These data testify to the significant unevenness of the opportunity to receive qualified psychological assistance at the university in situations of identity and professional crisis.

Moreover, according to the data of the Russian Academy of Education, in Russian universities, there is a very broad interpretation of the concept of "psychological service" — from one psychologist's position for all students, included in one of the units, to a full-fledged structural unit with specialists of various profiles, and to put such specialists into the staffing table of the university is a matter of goodwill of the management. At the same time, respectively, the workload for a specialist in a psychological service or a psychologist, sometimes working at 0.25 of the rate, varies significantly from university to university — from 0 to 12,024 applications for the 2020/2021 academic year.

In addition, due to the lack of a professional standard of a psychologist of higher education, the list of official duties of a specialist in the psychological service of a university is formulated solely on the basis of the head's general ideas about the work of a psychologist, which can lead to a number of negative consequences — from declining quality of psychological assistance to the extension of the consultation waiting period. Advanced training of psychological service specialists is chaotic and often proactive; the selection of additional education programs and implementing organizations takes place without taking into account the quality and specifics of the work of a higher school psychologist.

All participants in educational relations in the system of higher education most acutely feel the problem of the material, technical and methodological support of the psychological services of universities. To date, the material and technical equipment is carried out based on the personal ideas of the head and the opportunities of

the educational organization, and methodological support is built on the basis of those psychological tools that are freely available, which often have not passed the adaptation procedure, peer review and do not have recommendations for use in the higher education system.

All the above problematic points indicate a significant uneven quality and limited range of psychological assistance, as well as condition of its infrastructure in educational institutions of higher education in the Russian Federation. Moreover, so far there has been no unified strategy in determining the goals, objectives, content, and methods of psychological support in educational institutions of higher education.

The Concept of Development of Psychological Support of Higher Education

The development strategy of psychological support for education is unique for each state, determined by historically established scientific traditions in each country, the national priorities of the system of education and upbringing, and depends on the economic, cultural, and political views inherent in society [8].

On August 29, 2022, the Concept for the Development of a Network of Psychological Services in Educational Institutions of Higher Education in the Russian Federation was approved by the Minister of Science and Higher Education of the Russian Federation. The concept defines the goals, objectives, principles, main directions, and effects of the implementation of state policy in the development of a system of psychological support for students in educational institutions of higher education in the Russian Federation, including in terms of the implementation of the academic right of students to psychological assistance enshrined in Article 34 of the Federal Law "On Education in the Russian Federation", as one of the conditions for training, taking

into account the characteristics of the psychophysical development and health status of students.

The Concept sets out the task of creating a federal network of psychological services on the basis of existing psychologists or structural units of universities, headed by a coordinating center — the Federal Resource Center for Psychological Services in the System of Higher Education of the Russian Academy of Education (hereinafter — RAE Federal Resource Center).

In the system of coordination of psychological support of higher education of the Ministry of Education and Science of Russia, the RAE Federal Resource Center is entrusted with the powers of coordinating, scientific, methodological, and personnel support for the development of psychological support of higher education in the Russian Federation. All scientific-methodical developments of the RAE Federal Resource Center are coordinated with the Interdepartmental Working Group on the Development of Psychological Services in Educational Organizations of Higher Education of the Ministry of Science and Higher Education of the Russian Federation, which included scientists known for their achievements in the field of education sciences, and representatives of various ministries and departments. After the approval procedure, methodological materials and developments are sent to the psychological services of all educational institutions of higher education in the Russian Federation.

The psychological service of the university, as a link of the federal network, is created as a structural unit for providing psychological support of educational activities, taking into account the specifics of the educational organization, as well as for psychological assistance to employees of the educational organization. The university psychological service includes psychologists and may include other specialized specialists who are qualified to provide psychological-medical-social assistance if necessary.

Such a model — a network with a coordinating center — will let to achieve the main goal of psychological support of higher education: to organize qualified psychological assistance for students and employees of each educational organization of higher education according to unified federal standards of diagnostic, corrective, developmental and preventive work. In addition, in the context of the model, the conceptual uniformity of all university psychological services providing assistance "on the ground" is achieved as links of the federal network with the advantages of a generalized structural model of psychological service in the general education system [9].

At the same time, the fundamental principle of organizing psychological support for higher education is the integration of research achievements in the field of educational sciences and the best practices of counseling, correction, prevention, and education. It is important to take into account not only the methodological principles of the systemic (B.F. Lomov, S.L. Rubinshtein, etc.), system-activity (V.V. Davydov, I.V. Dubrovina, V.V. Rubtsov, V.S. Mukhina, and others), differential-psychological (B.M. Teplov, V.D. Nebylitsyn, S.B. Malykh, T.N. Tikhomirova and others) approaches to the analysis of mental development and the fundamental theories of sociocultural development of the psyche, formulated on their basis [3; 4; 6; 7], but also the empirical data of new large-scale longitudinal projects in education, which make it possible to identify early markers of possible developmental and learning disorders throughout the entire period of education.

In world psychological science and educational practice, longitudinal studies are the most valuable and state-supported long-term studies of the mental development of students (for example, the project "National Center for Analysis of Longitudi-

Басюк В.С., Малых С.Б., Тихомирова Т.Н. Федеральная сеть психологических служб
образовательных организаций высшего образования: концепция, приоритеты и ресурсы развития
Психологическая наука и образование. 2022. Т. 27. № 6

nal Data in Education Research" (CALDER, http://www.caldercenter.org) or project with the participation of Russian students "Cross-cultural Longitudinal Analysis of Student Success" ("CLASS", http://class-project.ru/)). Despite the complexity and laboriousness of implementation, it is this type of research that is the most socially significant and necessary for making sci-entifically based management decisions in the field of psychological support for edu-cation at all its levels [15; 19].

The combination of the classical meth-odological framework and new experimen-tal, including interdisciplinary, methods for analyzing the mental development of mod-ern young students will further strengthen the scientific arguments in choosing priori-ties, for example, for psychological preven-tion and education. In particular, the need for close attention of psychological service specialists to the problems of an emotional nature in modern students is confirmed not only by the data of a population study of the Russian Academy of Education (see above), but also by the thesis of the cultural-historical theory of the development of the psyche by L.S. Vygotsky: "emotions are no less important agent than thought" [8, p. 20].

Priority Directions for the Development of the Network of Psychological Services of Higher Education Institutions

The development of psychological ser-vices in Russian universities is associated with the achievement of the most important socially significant guidelines for the psy-chological support of higher education — the availability of psychological assistance, its high quality, and the variety of types and forms of providing such assistance to students and teachers in need. To achieve these guidelines, it is advisable to improve the psychological support of higher educa-tion in accordance with the following key lines of work.

Coordination of the activities of psychological services of higher education institutions

The function of coordinating the work of the psychological services of all Russian higher education institutions is entrusted to the RAE Federal Resource Center. The Telegram channel "Psychological Service of the University" has already been cre-ated, where each of the 1018 (data as of 10.10.2022) specialists and heads of the psychological service of a Russian uni-versity can get advice on organizing psy-chological support for students and teach-ers (https://t.me/+z9z9hTELTMgzZWUy). Methodological recommendations and oth-er materials intended to provide qualified psychological assistance to students and employees of universities will be sent cen-trally to university psychological services.

Regulatory legal regulation

The federal law "On Education in the Russian Federation" allows the university to create a structural unit — a psychological service that provides social adaptation and rehabilitation of students who need it (Arti-cle 27), maintains the necessary conditions for protecting and strengthening the health of students and university employees (Ar-ticle 28), as well as realizing the academic right of students to education, taking into account the peculiarities of their psycho-physical development and health status, in-cluding the receiving of socio-pedagogical and psychological assistance (Article 34). The activities of the psychological service as a structural unit of the university are regulated by local regulations, which the university develops independently on the basis of standard documents recommend-ed by the Ministry of Science and Higher Education of the Russian Federation.

Along with this, the normative legal regu-lation of psychological support in the system of higher education and the activities of the psychological services of universities needs

Basyuk V.S., Malykh S.B., Tikhomirova T.N. Federal Network of Psychological Services of Educational
Institutions of Higher Education: Concept, Priorities and Development Resources
Psychological Science and Education. 2022. Vol. 27, no. 6

to be improved. First of all, this is about the preparation and approval of a standard for the provision of psychological assistance in the higher education system, including the use of diagnostic tools, thanks to which the high quality of psychological assistance and the unity of protocols for supporting those in need in difficult life situations will be achieved. The lack of a standard leads to an overly broad interpretation of the concept of "Psychological service" and narrowing the range of assistance — from a single psychologist with a narrow specialization to a full-fledged structure with specialists of various profiles capable of providing psychological, medical, and social assistance.

The professional standard of a psychologist in the system of higher education, which will determine labor functions, labor actions, requirements for vocational education and training, the need for practical work experience, and the presence of special conditions, is highly demanded by the community. The absence of a professional standard for a psychologist of higher education leads to the formulation of the job responsibilities of a specialist in the psychological service of a university solely on the general ideas of the head of the university about the work of a psychologist.

The system of professional development of managers and specialists of psychological services of universities

The qualifications of the manager responsible for organizing the psychological support of education at the university, and the specialist who directly provides assistance to students and teachers, guarantees the high quality of such assistance, its effectiveness and, as a result, helps reduce psychological barriers that obstruct contacting the psychological service of the university for professional psychological assistance. It is important to provide for the development of measures that motivate specialists to regularly improve their qualifications, increase

their knowledge and improve their practical skills, and at the same time apply additional professional education programs designed to meet the current needs of universities and invite leading lecturers.

At the same time, personnel support for the activities of the network of university psychological services should be centralized and include not only activities that improve the professional qualifications of heads of psychological services and psychologists, but also academic supervision and intervision programs, real assistance to the specialists themselves, including those working on hotlines, in overcoming emotional burnout, identity and professional deformations. It is the supervision and intervision of the activities of university psychological services spmakeists that makes it possible to share professional situations and, most importantly, to find optimal solutions to situations at different stages of counseling, to cope with typical diffuclties without one's own mental health implications.

Such a systematic implementation of personnel support becomes possible precisely with a network model for organizing the work of university psychological services, when advanced training, supervision and counseling are regulated by the RAE Federal Resource Center, and scientists, involved in the development of programs are well known for their achievements in educational sciences and those who are the best in educational practices.

The solution to the most pressing issues that arise in the course of the work of university psychological services becomes most effective with the support of the professional community of higher education psychologists. On the agenda of the year is the creation of an all-Russian public organization of psychologists of higher education, which will allow to unite the intellectual efforts of professionals for the benefit of improving the psychological support of higher education.

Басюк В.С., Малых С.Б., Тихомирова Т.Н. Федеральная сеть психологических служб
образовательных организаций высшего образования: концепция, приоритеты и ресурсы развития
Психологическая наука и образование. 2022. Т. 27. № 6

*Methodological support for the activities
of the network of university
psychological services*

The serious systematic work of scientists, administrators of education, and practical psychologists requires the improvement of the methodological support of the federal network of university psychological services. According to the Russian Academy of Education, among vice-rectors in charge of psychological support at the university and heads of university psychological services, 100% of respondents admitted that the effectiveness of the work of the psychological service is most facilitated by the equipment with modern reliable methods.

Difficulties with the methodological equipment of the psychological service, as well as the insufficiently correct application of methods by specialists working with students, are a characteristic of the education system at all its levels (e.g. [11]). Thus, according to the Monitoring of the activities of the psychological services in the system of general education, conducted in the 2019/2020 academic year by specialists from the Russian Academy of Education under the leadership of S.B. Malykh, with the participation of 16,854 school psychologists from all federal districts of the Russian Federation (65.95% of the total number of psychologists working in Russian schools), the majority of specialists — from 59% to 72% — have at their disposal only certain diagnostic methods, correctional programs and developing technologies, which are usually downloaded from the Internet. At the same time, for most of the methods, there are no data on their reliability and validity based on the results of testing with the participation of Russian students, and almost all diagnostic methods did not pass national standardization.

Therefore, it is necessary to form a single list of those methods, primarily diagnostic ones, the use of which can be recommended in the system of higher education for the effective work of university psychological services. In addition, close attention should be paid to the development and approval of the requirements for the material and technical support of the psychological service in the educational organization of higher education, including the equipment in offices of specialists.

The list of recommended tools, as well as lists of scientifically based programs of various directions, technologies for providing qualified psychological assistance and, undoubtedly, adequate criteria for assessing the effectiveness of psychological services that correspond to reality, are advisable to submit in the form of sections of methodological recommendations on the organization of psychological services in educational institutions of higher education, approved by the Interdepartmental Working Group of the Ministry of Education and Science of Russia and sent to the university psychological services.

*Scientific research for the development
of psychological support
of higher education*

The development of scientific foundations of management in the field of psychological support of higher education in the organization of a federal network of university psychological services is extremely in demand by all participants in educational relations — from students to representatives of ministries and departments. To increase the effectiveness of the psychological service, scientifically substantiated evidence of the effects, including long-term effects, manifested at subsequent stages of education from the introduction of programs, algorithms, and technologies of psychological support into the higher education system, affecting the mental development of students is required.

The current state of research in the field of education sciences is characterized by a "trio" of obvious problematic issues: the

lack of coordination in the implementation of similar projects in various scientific and educational organizations, the dissociation of research protocols and methods, and the lack of joint scientific projects based on educational organizations of various departments — the Ministry of Science and Higher Education, the Ministry of Education, the Ministry of Health of Russia as well. These main problems lead, first of all, to the difficulty in understanding the regional and university specifics, and the impossibility of combining research data to develop evidence-based management decisions, including when designing psychological support for higher education.

Among the primary research projects necessary for the full-fledged work and improvement of the federal network of university psychological services, it is expedient to designate the following:

— regular population studies of student youth in the Russian Federation to understand the normative indicators of mental development;

— longitudinal studies to assess the effects, including long-term ones, of the impact of educational, upbringing, correctional-developing, and correctional-rehabilitation technologies on the psychological well-being of students;

— monitoring studies of the current state of psychological support for higher education and the effectiveness of the psychological services of universities in the Russian Federation.

The data obtained during the implementation of this kind of large-scale research will be used in the higher education system for early registration of events, phenomena or individual psychological characteristics that can lead to learning disorders, and timely provision of scientifically based preventive impact.

All the above key areas of work to improve the psychological support of higher education are reflected in the Action Plan for the implementation of the Concept for the Development of a Network of Psychological Services in Educational Institutions of Higher Education in the Russian Federation for the period 2022/2023 academic year.

Development Resources

Improving the psychological support of higher education is inextricably linked with the development of interprofessional and interdepartmental interaction. In order to achieve the main social effect of the development of a network of psychological services in universities — to increase the psychological well-being of students and teachers — it is necessary to combine the administrative, research and technological resources of specialists working in various fields of science, education, and healthcare.

The resources for the development of psychological support in higher education are, first of all, the Faculty of Psychology and other structural units of the educational organization of higher education, on the basis of which psychological services will be created. Moreover, those scientific, educational, and other organizations whose employees carry out research, including interdisciplinary research, on problems of abnormal behavior, patterns of mental development, factors of individual differences in learning, psychological safety of the educational environment, etc., can contribute to the improvement of psychological support.

Organizations that implement additional educational programs in the field of psychology and related fields of scientific knowledge can provide advanced training for specialists in university psychological services or provide their leading employees to participate as lecturers in additional professional education programs of the Russian Academy of Education.

Cooperation between university psychological services and medical organizations, including those providing psychiatric care, is

given almost paramount importance. Cases of abnormal behavior of young people, especially suicidal, often due to overt or covert psychopathology, require psychiatric consultation. Less resonant are cases of non-suicidal auto-aggressive behavior (self-harm): they often don't bother others, but at the same time, they are a marker of the psychological distress of a young person and also require specialized assistance.

Such a system of resource support for the activities of university psychological services will make it possible to solve the problems of a quick highly professional response in the provision of comprehensive psychological, medical and social assistance to students and teachers of each university. Indeed, according to the data of the Russian Academy of Education, specialists from university psychological services believe that it is extremely necessary to involve medical organizations (89.7% of respondents), regional centers of psychological, pedagogical, medical, and social assistance (87.9%) and educational organizations implementing advanced training programs, training and retraining of specialists for work in the psychological service of the university (83.9%).

Conclusion

The main task of developing a federal network of psychological services in educational institutions of higher education is to ensure the effective work of the psychological service in each university, aimed at maintaining mental health, strengthening psychological well-being, forming a positive socialization of students and teachers, their psychological support in difficult life situations.

The data of the Ministry of Science and Higher Education of Russia and the Russian Academy of Education indicate that at the moment, a number of universities employ psychological services that are not united into a single system or individual specialists — psychologists, who, with centralized resource provision and state support, can be-

come the basis for the formation of a federal network of university psychological services that responds to current social challenges.

The network model with a coordination center will determine the unity of the federal area for psychological support of higher education in Russia, which, in turn, will ensure high standards for the provision of comprehensive psychological assistance and support to students and teaching staff at each university, regardless of its specificity and region.

The availability of psychological assistance for students and employees of universities, its high quality, and the breadth of the spectrum are the three most important conditions that contribute to the formation of a psychologically comfortable and safe educational environment at the university. According to research, psychological safety as a key characteristic of the educational environment of a university, college, and school ensures the positive personal development of all participants in educational relations — students, researchers, teaching staff, education administrators, and parents [2]. Moreover, it is reported that it is the educational microenvironment — the peculiarities of learning in a particular educational organization — that can modulate macroenvironmental effects (strengthening or weakening them) on the mental development of students, which leads to a change (increase or decrease) in the level of development of a certain psychological trait in some intrapopulation groups [15]. These data emphasize not only the importance of the psychological quality of the educational environment of a particular university, college, or school but also the reciprocal nature of relations with indicators of mental, including the identity development of students and schoolchildren. Indeed, the interdependence of the conditions of education and the formation of a personality, first of all, the formation of the internal position of students, focused on a responsible attitude towards themselves and others, independence, a conscious choice of life guidelines,

Basyuk V.S., Malykh S.B., Tikhomirova T.N. Federal Network of Psychological Services of Educational
Institutions of Higher Education: Concept, Priorities and Development Resources
Psychological Science and Education. 2022. Vol. 27, no. 6

is one of the main principles for achieving the goals of modern education [5].

The implementation of the planned scientific research in the interests of improving the psychological support of higher education, including the determination of protective factors in problematic development and learning options, considering the quality of the educational environment of the university, will facilitate the transition of specialists of university's psychological services from emergency psychological assistance to risk groups to prevention and education.

The systematic implementation of priority areas of work on the development of the federal network of psychological services of universities will bring the psychological support of higher education to a qualitatively new stage of its development and achieve in the medium term:

— high standards and completeness of the range of psychological assistance and support for all categories of students, regardless of the place of residence, including in situations of personal crisis and emergency situations;

— improving psychological literacy, preventing emotional burnout, identity and professional deformations of researchers and teaching staff;

— effective guidelines based on scientific data, and the possibility of continuous professional growth of specialists of psychological services of universities.

Wherein, higher education will be characterized by the unity of the federal area of psychological support, which solves the problem of rapid professional response in providing psychological assistance to all participants in educational relations.

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DIGITALIZATION OF CHILDHOOD: DEVELOPMENT,
EDUCATION, SOCIALIZATION
THEMATIC RUBRIC |
ТЕМАТИЧЕСКАЯ РУБРИКА
«ЦИФРОВИЗАЦИЯ ДЕТСТВА:
РАЗВИТИЕ, ОБУЧЕНИЕ, СОЦИАЛИЗАЦИЯ»

Digitalization of Childhood: Development, Education, Socialization

The digital transformation of education is a powerful international trend and one of the priority areas of state policy in the Russian Federation. The State Program of the Russian Federation "Development of Education" for 2018—2025 includes the implementation of the federal project "Digital Educational Environment". The current generation of students and schoolchildren will have to learn how to act effectively and work professionally in the environment of the digital economy and digital state.

Universities are increasingly turning to new digital ways to improve the quality of education, increase student involvement in the educational process and manage knowledge resources. It is highly important to overcome the dichotomy of choice between online and traditional full-time education and provide special importance to blended learning, which, according to the rector of MSUPE A.A. Margolis, in many ways becomes a factor "uniting the past and the future of education". According to the HSE annual monitoring of the economics of education, the educational process in Russian universities in 2020—2021 has undergone a major transformation: digitalization processes have unfolded at a faster pace, and new models of training courses and various types of new technologies have begun to be mastered. Accelerated digitalization of the educational process is seen as a growing window of opportunities. At the same time, the processes of digital transformation in general education seem to be quite dramatic, revealing a number of problems that require innovative approaches to their solution.

The topic of research on the attitude of students and teachers of higher and general education to different formats of education is currently very popular. In our opinion, the main problem with Russian works based on surveys of schoolchildren and teachers about their learning experience during the pandemic is, as it were, their "negatively hopeless component". At the same time, researchers often equate the concepts of "online learning" and "digital educational environment" (DEE), which is absolutely not true. DEE is a combination of many components, digital resources, services, and software for the implementation of the learning process and organizing the interaction of all participants in it. DEE resources can be effectively used in any format — face-to-face, blended or online.

Since the beginning of the 2010s, empirical research and evaluation of the effectiveness of digital formats and learning models for a wide range of disciplines in both higher and general education is being carried out worldwide. The results varied, but many of them show positive experiences and contain constructive suggestions.

Nowadays, a wide variety of digital tools and software for education, both higher and general, is used all over the world and in Russia. These tools make it possible to ensure not only intensive interaction between teachers and students in the online environment, including joint work on interesting projects, but also the organization of independent work of schoolchildren and students using digital resources and services, as well as monitoring and evaluating educational results, and much more.

Thus, systematic and intensive work is coming to the fore to master the already known tools, develop new pedagogical approaches based on digital technologies, and gamified digital psychodiagnostic tools, as well as improve the skills of teachers and faculty and academic teaching staff by developing their digital competencies and skills, organization of such work together with the board of educational institutions and education authorities. That is why a constructive position and specific proposals for the development and application of digital technologies in education are of particular importance.

This selection presents several interesting modern studies that reflect the outlined range of problems in their various aspects, as well as suggesting options for their constructive solution. It is especially important that the authors see the prospects for the creation and promotion of new technologies, digital tools, and services in education, and also take an active part in their development and implementation.

Thematic Editors' Foreword:
M.G. Sorokova, O.V. Rubtsova

The Effectiveness of Collaborative Problem Solving by Junior University Students in The 'PL-Modified' Computer Game System

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The present study is aimed at examining the problem framed by the team of authors in the past research papers (2018, 2020, 2021) and assessing the level of the general learning actions of analysis, planning and reflection as the main components of theoretical thinking in students in the individual and collaborative (paired with a partner) problem solving conditions by the 'PL-modified' computer game system. General intelligence was separately evaluated and controlled. 138 students of the Faculty of Psychology of Education of MSUPE participated in this study. The results show that: 1) the main indicators of game performance were higher in collaborative problem solving, however, 2) depend on the intellectual capabilities of two players in a pair. The data obtained are analyzed in accordance with the effects revealed in past studies and discussed in terms of the further prospects for using the 'PL-modified' computer system as an additional tool for the assessment of the general learning actions of students of different ages and cognitive potential.

Keywords: 'PL-modified' computer game system, general learning actions, collaborative problem solving, general and social intelligence, junior students.

Успешность совместного решения задач студентами младших курсов вуза в игровой компьютерной системе «PL-modified»

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Представлены результаты исследования, связанного с решением цикла задач, сформированных коллективом авторов в прошлых исследовательских работах (2018, 2020, 2021), которые направлены на оценку степени сформированности универсальных учебных действий анализа, планирования и рефлексии как основных компонентов теоретического мышления у учащихся в условиях индивидуального и совместного (в паре с партнером) решения игровых задач с помощью разработанной компьютерной игровой системы «PL-modified». Отдельно оценивались и контролировались общие интеллектуальные способности. В исследовании принимали участие студенты факультета психологии образования МГППУ (138 человек). Полученные данные показывают, что: 1) показатели игровой результативности оказались выше в условиях совместного решения задач, 2) тем не менее, они зависят от интеллектуальных возможностей двух игроков в паре. Полученные данные анализируются в соответствии с эффектами, полученными в прошлых исследованиях, и обсуждаются с точки зрения дальнейших перспектив использования компьютерной системы «PL-modified» в качестве инструмента диагностики универсальных учебных действий учащихся разного возраста и когнитивного потенциала.

Ключевые слова: компьютерная игровая система «PL-modified», универсальные учебные действия, совместное решение задач, общий и социальный интеллект, студенты младших курсов.

Introduction

The pace of digitalization in education is steadily increasing nowadays. In addition to new curricula, courses, subjects, and methods that have been digitalized in whole or in part, digital methods of assessing knowledge and competencies are widely distributed. Although the process of digitalization is quite active in the field of education itself, there are not so many digital diagnostic tools in the psychology of education. The existing methods can be divided into two groups in terms of their diagnostic purposes and the content of the stimuli. The first group includes standard psychological tests and questionnaires submitted in electronic form. They are no different in content from their blank versions. At the same time, the digital format gives them a number of advantages in the form of low time and physical resources associated with diagnostics and data processing. Nevertheless, the electronic version of recognized tests is usually aimed at evaluating individual, specific, psychological constructs, so each new psychological characteristic requires a new measurement tool, which, accordingly, increases the diagnostic procedure.

The second group of methods consists of tests designed in the form of popular computer games with specially developed (more often non-verbal) material. These are so-called gamified diagnostic techniques. The question of the possibilities of using computer games as diagnostic tools, primarily cognitive abilities, has been discussed by researchers for quite a long time and does not allow us to come to a single solution at the moment. On the one hand, a sufficient amount of data has been accumulated confirming the high psychometric properties of individual computer games, which have proven themselves as an alternative tool for intelligence and creativity assessing. For example, some empirical studies were conducted under the leadership of Foruga [18], where a test of 15 puzzles of the popular video game Portal-2 was assessed. This test is evaluated to assess fluid intelligence. The results demonstrated high reliability rates with Advanced Raven matrices. Later with the same game, it was proved that video game experience had a significant positive effect on the indicators of psychometric creativity and spatial abilities. These effects were especially evident in those subjects who were actively engaged in the study of natural sciences [19]. On the other hand, the results of such studies are hard to overestimate for several reasons, such as the tendency to publish studies with exclusively confirmed data and often the lack of stable reproduction of the effects obtained. In this regard, the diagnostic capabilities of computer games are inferior to many proven ability tests, in particular, Standard Raven matrices, which have sufficiently high indicators of validity and reliability. Therefore, the issue of gamified techniques usage continues to be a matter of dispute for many researchers and at the same time is more relevant than ever, given the increasingly active penetration of the digitalization process into psychology and pedagogy and opens up new research prospects.

Theoretical background and purpose of the study

The study continues the research series of gamification methods as tools for measuring psychological constructs. An example of such a tool is the computer game

Марголис А.А., Гаврилова Е.В., Шепелева Е.А., Войтов В.К. Успешность совместного решения задач
студентами младших курсов вуза в игровой компьютерной системе «PL-modified»
Психологическая наука и образование. 2022. Т. 27. № 6

system 'PL-modified', aimed at assessing the level of universal educational actions (hereinafter UEA) of secondary school-age students. The diagnostic capabilities of the technique were studied in previous studies of the authors' team [7; 8; 9] and confirmed its high validity indicators. The present study is aimed at evaluating the effectiveness of solving game problems by young students — undergraduate and graduate students of the MSUPE Faculty of Education— under two game conditions: individually and paired with a partner.

The methodological background of the research is represented by L.S. Vygotsky's cultural-historical theory [1], A. Leontyev's theory of activity [5], and V.V. Davydov's theory of developmental learning [16; 4], which postulate that the mental development of a person is determined by the interiorization of generalized ways of action that occurs in the process of communication between a child and an adult.

Joint activity realized through communication contributes to the active position of the subject and triggers the development of his mental actions formed on the basis of theoretical thinking. Davydov [4] identified three key components of theoretical thinking, or higher mental actions, such as analysis, planning, and reflection. The formal-theoretical level of analysis (as opposed to the empirical one) is aimed at identifying internal, essential features in the phenomenon under study, allowing the object to be attributed to a certain class. The mental action of planning as part of a more general ability to act "in the mind" is interpreted as the ability to predict what will happen to an object if certain transformations are made [17]. Reflection as the ability to see the origins of one's own way of acting is the ability to distinguish between universal relations in the studied object.

These three universal educational actions make a significant contribution to high achievements in education and create the basis for a deep understanding of the main school disciplines, the ability to successfully solve educational tasks, and realize the effectiveness of their own educational actions. Moreover, cooperation and any other form of children's joint activity plays a key role in the development of mental actions. In a number of modern studies, it has been shown that those preschoolers and schoolchildren who have fairly good skills of interaction in small groups and joint games develop conceptual thinking and improve academic performance [3; 2; 4; 11; 9; 13; 14]. Despite the fact that universal educational actions are studied mainly by students at the stage of graduation from primary school, properly formed UEA are invariant for the entire educational process, which continues, including at the stage of higher education. Thus, the Federal State Educational Standard of Secondary General Education sets requirements for the development of personal, regulatory, communicative, and cognitive universal educational actions by students. Nevertheless, according to some researchers, individual UEA can also be formed in the first years of higher education [15]. Universal learning activities contribute to the multi-level of knowledge, skills, and competencies in certain areas of knowledge that underlie professional activity. Thus, the study of UEA not only among schoolchildren but also students is an urgent task of modern psychological science.

The presented study solves several problems. First, it is aimed at assessing the level of students' mental actions through the indicators of the game performance in two conditions of solving problems — individually and paired with a partner, which will allow to share the contribution of specific mental actions and individual characteristics to the effectiveness of the studied activity. Secondly, taking into account the previous empirical facts, the new data will provide additional information about the

psychometric properties of the computer system itself (in particular, its reliability), which will increase its diagnostic potential in the future.

Method

Research methods
The 'PL-modified' computer game system, calculating methods of game indicators and the design of the study

The study used a modified version of the 'PL-modified' computer game system. The overall structure repeated the design of the previous two versions of the game, developed for research in 2018—2021. The "working" screen of the game system is shown in Figure 1 and is a field of 9×9 cells. Colored balls appear on this field according to certain rules ("patterns"). The player's goal is to build lines of balls of the same color, gaining points. Understanding the rules of the appearance of balls should contribute to a more effective game, manifested, in particular, in more points. The specific parameters of the game — the rules understanding and using in the game — are diagnostic indicators of specific mental actions — analysis, planning, and reflection. Thus, the mental action (hereinafter referred to as the MA) of the analysis was calculated by the number of correctly identified patterns (in each game set and throughout the game), the planning MA was estimated as the total number of game points, the reflection MA was estimated by the number of balls on the playing field at the last turn of the game[1]. In addition, regard to the planning markers it is important to note that the statistical analysis did not use the "raw" points that the play-

ers received at the end of each game set and the entire game. A certain coefficient was calculated, which was determined as follows: $X0 = X1/X2$, where $X0$ is the total coefficient of the game (= planning time), $X1$ is the total number of points scored during the game, $X2$ is the number of moves made during the game. The calculation was made taking into account the logic that one player in any case will make more moves per game than two players. At the same time, the quality of the moves may differ, so the selected coefficient maximally equalizes the gaming capabilities of the two-game conditions, despite the technical differences.

The design of the study also included two stages. The first stage — "individual" — is aimed at assessing the mental actions of students through the effectiveness of game actions in the process of individual work in the system (Figure 2). The second stage involved the work of students in pairs when each game move is made in turn by each participant of the game. In this case, any move is confirmed or rejected by the partner in the game (Figure 2). It is assumed that the proposed format of the game in the form of a dialogue initiates the mental activity of students, activating the use of mental actions for the successful completion of the task. This version of the system included three games with prepared rules for the appearance of balls for each game stage.

The study objectives were to: 1) compare the main indicators of game performance in two game conditions: an individual format and the form of an active dialogue between the participants; 2) analyze the main indicators of the game at each stage; 3) analyze the main indicators of game performance and the patterns of relations

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[1] The variable "reflection" was calculated in this way only for individual game conditions. The same variable in the collaborative game conditions will be assessed as the number of expressions of a certain category in the process of communication between players, which will be discussed later in the article.

Марголис А.А., Гаврилова Е.В., Шепелева Е.А., Войтов В.К. Успешность совместного решения задач
студентами младших курсов вуза в игровой компьютерной системе «PL-modified»
Психологическая наука и образование. 2022. Т. 27. № 6
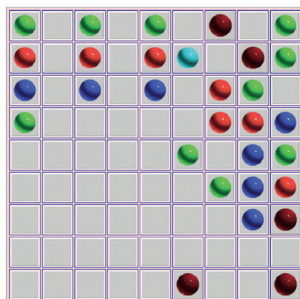
Fig. 1. The playing field of the 'PL-modified' system for individual game
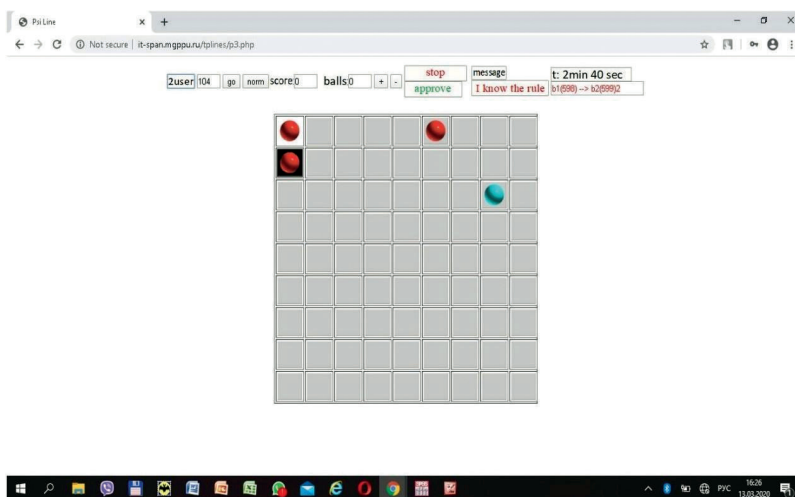
Fig. 2. An example of the game version when interacting with a partner with examples of the presentation
of balls of permission / prohibition of the step

between them in the conditions of the game paired with a partner, taking into account the individual psychological characteristics of the two players in a couple.

Spearman's rank correlation coefficient, Wilcoxon's t-criterion, Mann-Whitney U-criterion, and descriptive statistics were used for statistical data analysis. The SPSS Statistics program (version 23) was used.

Sample, research structure, and other psychological points

The study involved junior students of the Faculty of Educational Psychology of MSUPE (N = 138; 85% women).

Working with a computer game system included 2 academic hours. First, an individual stage was held. Each participant worked while sitting at their own computer/laptop. The game consisted of 3 game sets of 8 minutes each. After each game set, the subjects were presented with a list of rules with a description of correct and deliberately false rules. The task was to choose the rules that are observed when presenting balls in a particular game set.

In the next lesson, the stage of playing in a pair with a partner began. The students were divided into pairs in advance according to the alphabetical principle. The condi-

tions of the new game were explained to the students: first, one participant makes a step, which is simultaneously displayed on two computers — the one who made the step and his partner. The task of the second participant is to evaluate this step from the point of view of its expediency for the main task — to build a line of balls and get points. Therefore, the second participant can either approve this step or prohibit it. After the approval of the desired step, the initiative passes to the second player.

The following two classes were used to diagnose other individual psychological characteristics of students: general and social intelligence, as well as motivation[2]. To assess intellectual abilities, the psychological test "Standard Progressive Matrices" by J. Raven was used [10; 12], which includes 12 abstract matrices. In the case of a sample of students, before testing, a special lesson was held on the structure of cognitive abilities and modern methods of their diagnosis, for some students, diagnostics took place in a blank format, and for some online using an electronic resource https://www.psytoolkit.org [20; 21].

Results

The results are divided into three groups of data. There are: 1) the main data of the game performance in two different re-search conditions; 2) the data of the game performance at every stage of the game; 3) the main data about the patterns of the interactions between the researched variables depending on the individual (intellectual differences). We used ranking scales and nonparametric criteria for the analysis because of the abnormal distribution of some data.

The main indicators of game efficiency in various game conditions: general data and game stages. The mean data as the indicators of analysis, planning, and reflection are presented in *Table 1*.

All means were counted and compared for all variables in two game conditions. A Wilcoxon Test was made on the comparison of the means[3]. The data showed the advantages in means of planning between two games in favor of collaborative conditions. For more precise analysis the means at every game stage were compared. The results are displayed in *Figure 3*.

The revealed data show opposite patterns in the case of analysis and planning for different game conditions. The indicators of analysis quantitatively grow at each new game stage under individual game conditions. It means that participants understand more rules by playing further. But these advantages don't have an impact on the total game score. These data — in the

Table 1

The main differences in means by comparison of two game conditions
(SD are displayed in parentheses)

Measure	Game conditions	
	Individual game (N=137)	Collaborative game (N=138)
'Analysis' *(No. of correct rules)*	5.13 (2)	4.64 (2.11)
'Planning' *(X-parameter of game performance)*	5.85 (1.90)	7.60 (3.85)*
'Reflection' *(free cells on the last game step)*	137.51 (31.46)	78.23 (21.42)

*Note: differences are significant at the $p = 0.05$ level

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[2] The measurements for motivation and social intelligence were aimed for the other purposes and are not presented in this study.

[3] Only two variables — analysis and planning — were compared for Table 1.

Марголис А.А., Гаврилова Е.В., Шепелева Е.А., Войтов В.К. Успешность совместного решения задач
студентами младших курсов вуза в игровой компьютерной системе «PL-modified»
Психологическая наука и образование. 2022. Т. 27. № 6

case of planning — grow only under collaborative game conditions. We presume that such empirical facts can be explained in terms of technical calculations of the variable of analysis. Participants had to choose the rules on their own no matter in which conditions they were playing (even collaborative). We will definitely try to modify and equalize the calculations for each experimental condition further. Anyway, the present data underline the main empirical fact showing the advantages of game efficiency in total scores and means at every game stage in collaborative game conditions.

The correlation analysis with the usage of Spearman criterion was additionally applied to measure the interactions between the variables of analysis and planning. For each game condition the coefficient was 0.2 with its significance at p = 0.05 level. It is worth of notion that such effects repeat those revealed on the sample of middle-school students in the last study[4]. Thus the main patterns of the relations between the game parameters representing the mental actions of theoretical thinking are replicated.

The main effects and patterns of the interactions between game indicators: the impact of the individual differences. At the next step the interactions between three researched variables — analysis, planning, and reflection — were analyzed. As was noticed before, the variable reflection is not to be calculated as a number of free cells on the last game step for collaborative conditions. Thus, this variable was assessed by analyzing participants' dialogues in a collaborative game. All of them were transformed into written texts after being listened. The text was prepared for every student and for each game set. All expressions were written without being skipped for a detailed analysis. After that, the phrases were divided into six categories by the criterion of the participant's attitude to the game and to his / her partner. In the end, each phrase was awarded one point for a concrete category. The categories and expressions examples are presented in Table 2.

Every category reflects the attitude (or its absence) of participants to the current game situation. The previous results
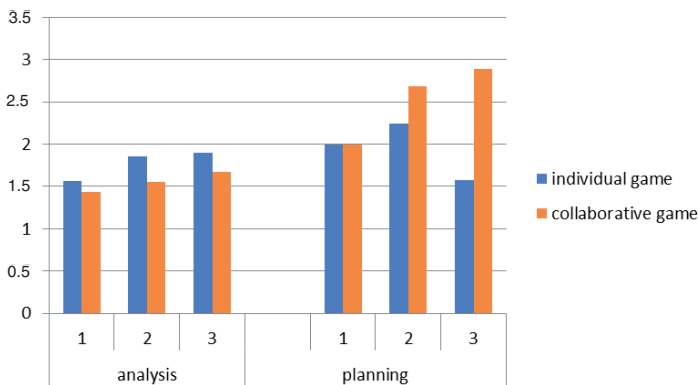
Fig. 3. Means of game performance at every game stage.
Along the abscissa is No. of the game, along the axis are means of game performance

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[4] Correlation coefficients between the variables of analysis and planning were r = 0,22 (p = 0.01) for individual game and r = 0.17 (p = 0.08) for collaborative game. These results are described in the "Cultural-Historical Psychology" Journal. V.17, №2, 2021.

Margolis A.A., Gavrilova E.V., Shepeleva E.A., Voitov V.K. The Effectiveness of Collaborative Problem
Solving by Junior University Students in The 'PL-Modified' Computer Game System
Psychological Science and Education. 2022. Vol. 27, no. 6

Table 2

The list of the categories with concrete phrases examples

Category	Expressions
1. Neutral *(doesn't change behavior of a participant)*	"Shall we begin", "What's that?", "I can't", "Have you moved in this way?", "Where are you moving!"
2. Neutral-motivational *(it is not the participant's behavior in general, but it brings emotional/motivational investment in the dynamic of the game)*	"Come on, move on!", "Please, approve", "Hurry up, we're just running out of time", "Come on!", "Ah! All right!", "Yes, let's make it this way"
3. Individually intended *(when the partner talks about his actions or asks his partner to pay attention to his actions)*	"I'm making vertical line", "I'm making horizontal line", "I'm making horizontal line", "Amid / cancel my move".
4. Collaborative intended *(when the participant talks to his partner about his moves or their collaborative actions and plans)*	"Make it again", "Let's build this line together", "Better to take this ball", "Take balls of the other color" ("take balls from this angle… green…blue" etc.), "We need to clear the field", "We need to try this".
5. Agreeing *(the participant agrees with his partner and accepts his move or cancels his own move, but understands the reason)*	"Generally, yes, it is so", "Yes, we take the green one", "I accept", "Yes, I agree, we move in this way", "Yes, all right".
6. Changing (objecting) *(an attempt to change partner's behavior with concrete arguments or statements about the game rules)*	"We can't build a line in this way", "This move is useful", "This move doesn't bring anything", "This move will destroy a line", "Diagonals are coming this way", "We could get more points in such a manner", "It's easier", "Three blue balls are arriving one after another", etc.

(2021) showed the importance of category 6 for the assessment of the reflection variable. Thus, this parameter was mainly used for further analysis. Since some classes were held in an online format because of coronavirus restrictions the next data with dialogues were measured only by those participants who could be present in person (N = 100). Table 3 with means for each category is presented below.

The presented results of the table show the frequent use of expressions of the neutral-motivational category, which is predictable. Such data are consistent both with the results of the previous study and with the emotional component of the category itself. This type of line may not have much of an effect on the flow of the game, but it does set the overall pace and mood, which also matters. On the other hand, the sixth category is an important indicator, and is on the second place of the frequently used "reflective" expressions in the course of the dialogue.

Марголис А.А., Гаврилова Е.В., Шепелева Е.А., Войтов В.К. Успешность совместного решения задач
студентами младших курсов вуза в игровой компьютерной системе «PL-modified»
Психологическая наука и образование. 2022. Т. 27. № 6

Table 3

Means of all categories

Category	M	SD
1. Neutral	3.76	3.62
2. Neutral-motivational	12.58	6.74
3. Individually intended	3.33	3.42
4. Collaborative intended	6.68	5.35
5. Agreeing	2.1	1.08
6. Changing (objecting)	7.77	3.61

The correlation analysis, however, did not allow us to find significant correlation coefficients between the analysis/planning indicators, on the one hand, and the average number of used expressions of each category, on the other. In this regard, the sample of subjects (those whose dialogues were recorded and analyzed further) was divided into two groups in accordance with the intellectual differences of participants. In past studies, it was important to for two partners to work in a pair , taking into account their intellectual abilities — the same or different. Therefore, this time two types of groups were also identified.

Group 1 consisted of the players with the same (near) level of intelligence, and group 2 included the players with different intellectual test performances[5]. Below is Figure 4 which represents game performance depending on the group. As one can see, both the analysis and planning indicators are higher in the second group of players who demonstrate differences in the intellectual level[6].

At the next stage, a correlation analysis was carried out between the indicators of planning, analysis and all types of categories (in particular, category 6, reflection) in each group. The data are shown in Table 4.
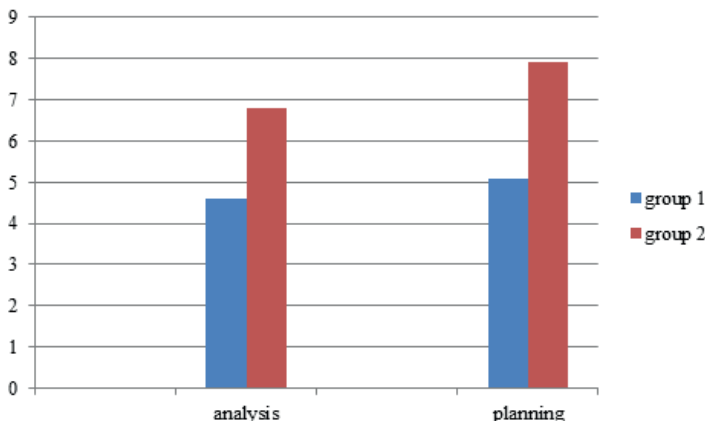
Fig. 4. Means of game performance compared in two groups

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[5] As before, the results of each subject were labeled as follows: higher than 66.7% of the sample (high level), in the range from 33.3 to 66.7% of the sample (average level), or lower than 33.3% of the sample (low level).

[6] The means of the analysis and planning variables were compared in both conditions using the Mann-Whitney U-test for two independent samples and allowed us to establish significant differences (p = 0.05).

Margolis A.A., Gavrilova E.V., Shepeleva E.A., Voitov V.K. The Effectiveness of Collaborative Problem
Solving by Junior University Students in The 'PL-Modified' Computer Game System
Psychological Science and Education. 2022. Vol. 27, no. 6

The patterns of the interactions between means of the expressions in each category and indicators of analysis and planning

Category	Group 1 (N=70)		Group 2 (N=46)	
	Analysis	Planning	Analysis	Planning
1. Neutral	0.24	-0.44 **	0.01	0.68**
2. Neutral-motivational	-0.16	0.48*	0.24	-0.49*
3. Individually intended	-0.1	-0.42*	0.04	0.72**
4. Collaborative intended	-0.03	0	0.2	0.1
5. Agreeing	-0.3	-0.5*	0.76**	0
6. Changing (objecting)	0.35*	0.12	0.58*	0.64*

*Note: significant at the $p = 0.05$ level; **significant at the $p = 0.000$ level.

The results mean that the more frequent is the use of neutral-motivational expressions in a group of pairs of players with the same level of intellectual abilities, the higher are their planning indicators, while this relationship is inverse for pairs with different levels of intelligence — the more frequent are such expressions, the lower are their planning indicators. The number of expressions of the changing type turned out to be significantly positively related to the indicators of analysis in both groups of players and to the indicator of planning in the group of players with different levels of intelligence. The number of agreeing expressions is negatively related to planning scores among players with equal intellectual abilities and positively to analysis scores in pairs with different levels of intelligence.

The results show several effects. First, positive correlations between the main game indicators and the expressions of the sixth category are to be observed in both groups. Thus, the connection between the three key mental actions measured by using a computer game system is obvious. On the other hand, it is group 2 where the main significant and strong effects are manifested, while the effects in group 1 are either weakly expressed or significantly negative. Such results emphasize the importance of individual differences between the subjects for the game performance. In the case of school students, there were pairs with the same intellectual level that demonstrated higher game performance. Then the reverse effect is observed in the case of students. Pairs of players with different intellectual abilities are more successful. This can be seen both in the average game indicators and in the correlation of these indicators with different categories. Thus, the measurement of the key mental actions needs to take various factors both external (game conditions) and internal (intellectual abilities) into account.

Conclusion

The presented study was aimed at assessing the level of mental actions of analysis, planning, and reflection of junior students in different conditions of game problem solving. The PL-modified computer game system was used as a diagnostic tool, which has already been used by the authors to evaluate mental actions in schoolchildren. The results of the study allow to draw some significant conclusions.

First, the level of mental actions of analysis, planning, and reflection of students, as well as the patterns of relationships between them are mediated by two factors: the conditions of the game (individually /in pairs) and cognitive resources

Марголис А.А., Гаврилова Е.В., Шепелева Е.А., Войтов В.К. Успешность совместного решения задач
студентами младших курсов вуза в игровой компьютерной системе «PL-modified»
Психологическая наука и образование. 2022. Т. 27. № 6

(equal/unequal intellectual capabilities). So, the indicators of the MA of analysis are approximately equal in both games, while the MA of planning is in the conditions of playing in pairs. These results are saved both for the overall game and for each game set. The dynamics of the game in pairs (the change from one game set to another) also increases with respect to the planning indicator. Thus, the playing conditions in pairs contribute to a more productive game.

At the same time, it is important to note that the key indicators of the game — quantitatively and qualitatively — depend on the psychological conditions of the interaction of partners in a pair. In general, pairs made up of students with different intellectual abilities play more effectively compared to players with an equal level of intelligence. This effect is expressed both in higher average game indicators and in significant positive patterns of interrelations between the main indicators of the studied mental operations — analysis, planning, and reflection. It is important to compare these data with the reverse effects obtained on a sample of secondary school age students, when players with equal intellectual indicators demonstrated high game performance [6]. It is obvious that such results are influenced by the age of the subjects themselves. Younger students (compared to students), apparently, are more comfortable playing with peers who are close in level. In addition, it is worth taking into account that the main level of secondary school age is communication [5; 16], when children unite in a circle of interests and build contacts with peers with similar internal attitudes. This thesis is equally a characteristic of cognitive abilities. Therefore, higher game performance in pairs of players who are equal in intelligence level corresponds to the age-related features of development described by Russian researchers.

In relation to the student sample, a slightly different picture is observed. It is important to understand that even junior students are already practically formed personalities who use the learning process for their further realization. Therefore, the range of their interaction is wider, requiring adaptation to completely different people with different abilities, traits and attitudes. This partly explains the different effects of different groups of players working together. Of course, many other factors can influence game performance, in particular, related to social intelligence, motivational components, and personality characteristics. In any case, at this stage, it is important to conclude that we should not expect obviously simple links between the indicators of game performance without taking into account various external and internal factors. A joint game a priori does not lead to a qualitative result but forms many opportunities for the deployment of the potential of its players.

Secondly, the obtained correlation patterns — first of all, with respect to the significant positive relationship between analysis and planning — repeat the effects that were identified in previous studies. The presented effects are reproduced in both general data and data of different subgroups. This indicates the good psychometric properties of the developed computer gaming system 'PL-modified'. As already mentioned in the introduction, the evaluation of a gamified technique as a diagnostic tool always poses great challenges to the specialist related to the exact procedure for developing parameters for registering the studied constructs and the process of diagnostics itself. Therefore, the reproducible effects emphasize the value of both the data itself and the computer technique, which allows to register various psychological constructs in several conditions for solving problems in the future, taking into account the age differences of the subjects.

Margolis A.A., Gavrilova E.V., Shepeleva E.A., Voitov V.K. The Effectiveness of Collaborative Problem
Solving by Junior University Students in The 'PL-Modified' Computer Game System
Psychological Science and Education. 2022. Vol. 27, no. 6

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35

Practices That Change Teachers' Beliefs: Use of ICT for the Development of Critical and Creative Thinking at School

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This article examines the change in teachers' beliefs regarding new educational outcomes and new forms of using digital tools. For six months, 18 teachers developed and conducted lessons that form students' critical and creative thinking. At the same time, ICT tools were used not only by the teacher, but, most importantly, by students themselves. The intervention took place within the framework of the 'action research' approach, where the author acted as an organizer and a facilitator of the process. All teachers received preliminary training and were involved in the action research. As a result, it was revealed that the change of beliefs occurs during the transformation of practice, considering the fact that teachers were in exploratory, reflexive position regarding their own activities. That is, the condition for changing teachers' perceptions was a continuous personal experience of using, testing new tools in a professional context and reflecting on new practices.

Keywords: teachers' beliefs, action research, critical thinking and creativity, ICT.

Mikhailova A.M., Pinskaya M.A. Practices That Change Teachers' Beliefs: Use
of ICT for the Development of Critical and Creative Thinking at School
Psychological Science and Education. 2022. Vol. 27, no. 6

Практики, меняющие представления учителей: ИКТ на уроках, формирующих критическое и креативное мышление

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Рассматривается смена представлений учителей относительно новых образовательных результатов и новых форм использования цифровых инструментов. 18 учителей в течение полугода разрабатывали и проводили уроки, формирующие у учащихся критическое и креативное мышление. При этом ИКТ-инструменты использовались не только учителем, но, главное, самостоятельно учащимися. Интервенция проходила в рамках подхода «исследование действием». Автор выступал в качестве организатора и фасилитатора процесса, учителя прошли предварительное обучение и были вовлечены в исследование действием. В результате было выявлено, что смена представлений происходит в ходе трансформации преподавания, при том, что учителя занимают исследовательскую, рефлексивную позицию относительно собственной деятельности. Утверждается, что условием изменения представлений учителей стало появление продолжительного личного опыта использования, апробации в профессиональном контексте новых инструментов и рефлексии новой практики.

Ключевые слова: представления учителей, исследование действием, критическое мышление и креативность, цифровые технологии.

Introduction

The topic of critical thinking, creativity and other core competencies become a regular one in educational research as well as the possibilities which are offered to teachers and students using ICT tools [7; 24; 19]. This article highlights the usage of the classroom ICT tools aimed at development of critical and creative thinking competences [17].

The article is devoted to teachers' views on possibilities for developing critical and creative thinking at subject-specific lessons, and the role of ICT tools in this pro-

Михайлова А.М., Пинская М.А. Практики, меняющие представления учителей:
ИКТ на уроках, формирующих критическое и креативное мышление
Психологическая наука и образование. 2022. Т. 27. № 6

cess. This research raises several issues related to the spreading of system-level innovation and changing of professional beliefs on individual level [5; 9].

The purpose of the study is to answer a question how teacher's beliefs towards fostering creativity and critical thinking with the use ICT change in process of modifying the pedagogical practice.

A hypothesis of the current research is that classroom practice might be a catalyst for a teachers' beliefs transformation.

The choice of school lessons as a space for fostering critical and creative thinking based on the L. S. Vygotsky's view about social nature of thinking, higher order thinking skills and similar conceptions in foreign research. They are connected as one receives information, new arguments and new questions in discussion and while obtaining feedback. In class, we can create an environment that contributes to information exchange and feedback, which provides support for an individual initiative and fostering critical and creative thinking [13].

The constructs of critical thinking and creativity, the characteristic of the lesson, tasks of the lesson and environment in this research are based on the report of the Organization for Economic Cooperation and Development (OECD) "Fostering Students' Creativity and Critical Thinking: What it Means in School". The model describes creativity as the capacity to find and create new ideas and decisions, and critical thinking as the capacity to ask a valid question, analyze, argue and evaluate ideas and decisions. Both of these competences are divided into four characteristics or the students' actions: research, imagination, action and evaluation. The OECD model is based on many well-known models of creativity (E.P. Torrance, J. Guilford, B. Lucas, M. Csikszentmihalyi, A. Cropley) and critical thinking (B. Bloom, R. Marzano, P. Facione, R. Paul and L. Elder). One of the features of the model is that it is de-

signed specifically for the school context as teachers used and clarified it while having such lessons.

Fostering and assessing critical thinking and creativity require renewal of activities and methods of organizing them. However, the main problem for teachers remains the shortage of tools, which can provide such a transformation of the lesson. Digital technologies might become the core tools [6].

It's important that digital technologies in this research are considered from two sides.

Firstly, as a digital device, which physically appears in class, or hardware (e.g. PCs or tablets). Secondly, there are services, websites, platforms, apps — all the resources that can be used having the access to hardware ("multi-modal resources") [17].

The usage of portable digital devices by students (tablets or laptops) enables them to look for, gather and classify the information (as a component of critical thinking) and suggest, test a hypothesis, or present a result in an unusual format as a means of self-expression (this is the component of creativity) [10; 17].

Another research key construct is teacher's beliefs. On the one hand, beliefs are fragmentary (collected from different sources in pieces), on the other hand, they are unstable and not constant. Beliefs are based on self-esteem, experience, and judgements. The research shows that teacher's beliefs are a highly complicated and controversial set of opinions based on both professional and personal experience [16].

A link between teacher's beliefs and their practice of using ICT at lesson and fostering critical and creative thinking determine the research framework and main hypothesis [10; 16]. That is, that teacher's beliefs might change while they are gaining new pedagogical experience.

A number of studies demonstrate that new experience with digital technologies

Mikhailova A.M., Pinskaya M.A. Practices That Change Teachers' Beliefs: Use
of ICT for the Development of Critical and Creative Thinking at School
Psychological Science and Education. 2022. Vol. 27, no. 6

can contribute to changing teacher's position to more student-centered, which is close to a constructivist approach [23]. In public schools both in Russia and abroad, negative teachers' attitude to portable device usage in class is quite common [14]**.** Students' mobile devices (phones, tablets, laptops) are considered as a barrier rather than learning tool.

This research uses the Donnelly's model to analyse professional teachers' beliefs [12]. It includes two main vectors: an orientation toward the teacher or a student, and agency, or independence and responsibility for using new tools. It is expected that there are different teachers' belief trajectories of change during their implementation of a new practice and different starting points from which the change begins. The model is described in Figure 1 with extra quotes from interviews with teachers due to this research.

Research Methods

The intervention was done using "Participatory action research" method as a part of "action research" [15]. Action research is a reflective practice. It claims the ability of each one to be a part of the research process and be an active participant. This research aims at changing the participant's practice research [15]. Actors question their practice constantly, while reflection helps them plan ahead. Participants (teachers and students) were actively involved being open for feedback and lesson refinement. The author had a role of an organizer and process' facilitator, while teachers changed their pedagogical practice using the action research. Therefore, we could observe how teachers' beliefs were changing in practice [18].

It must be noted that action research is a form of professional development, which includes reflective research-based activities. This form of learning is designed specifically for teachers as it is close to

their practical mindset [1]. The practician's knowledge is directly related to action that is why it can be presented verbally, while reflecting upon action [20]. Therefore, the chosen research method perfectly fits professional development because of its practical activities. Thus, it is considered also as a suitable pre-service training due "to the importance of fostering reflection and decision-making in this type of education" [4].

The sample consists of in-service teachers from elementary, middle, and high schools of various disciplines from two regions: Moscow and Moscow Region. Participants were asked to give eight lessons, which foster critical thinking and creativity using ICT tools (student's mobile phones). Teachers designed their own activities, and they could also use the exemplary ones. Before that, all participants had training on foster critical thinking and creativity (2C) [3]. A set of ICT tools (apps, web-sites or the way of working with students' mobile phones) was recommended for every lesson. Examples of activities were designed and tested within the OECD project "Fostering Students' Creativity and Critical Thinking: What it Means in School" [13]. These activities imply problem-based method, during which students work in groups and then present and compare the results.

Teachers could use any digital services, which seemed applicable for the activities. Apart from typical searching the Internet, such services were introduced: Tricider, Mentimetr, Kahoot, Nearpod, Timeline, Plickers, Canva. They were used by students on their PC's, laptops, or mobile phones during the activities.

This research included interviews with teachers and lesson observations. The interview was semi-structured and included several topics: what is creativity and critical thinking; is it possible to develop them at subject-specific lessons and how to do

Михайлова А.М., Пинская М.А. Практики, меняющие представления учителей:
ИКТ на уроках, формирующих критическое и креативное мышление
Психологическая наука и образование. 2022. Т. 27. № 6

it, if possible. Also, the interviews covered the usage of ICT in class and teachers' personal and professional attitude towards mobile phones. During the observations it was important if students used ICT and what for; what type of activities teachers were using, how students were reacting to the activities, whether they had any problems during the lesson. Before each 1—2 lessons, the teachers and the interviewer discussed the type of activities that would follow, the usage of ICT there, the steps of the lesson, and where 2C might be applicable. After the lesson the participants and the intervie\wer discussed the teachers' experience of the activity, of using a certain ICT-service, or any problems with it, and what to change for the next time. Thus, these interviews helped teachers to reflect on their experience, which is avital part of action research method as it makes teachers become researchers in their own classrooms.

In this research we used an axial and open coding type through a thematic analysis. Preliminary axes were connected to the research question: the perception of critical thinking and creativity; the capacity to foster them, and teachers' attitude towards ICT using in educational cases. We discuss open coded in this research further.

This research contains 18 cases. The data consists of structured observations and interviews with a teacher before and after all the lessons and between them. Thus, there are:

1. 38 pre- and post-interviews with teachers who gave 8 lessons;

2. 80 interviews before and after the lessons about the usage of new tools;

3. 100 structured observations, which were used to evaluate lessons' transformation, changes in teaching or instruments' usage.

Results

We chose Donnelly's model as a core one for describing teachers' beliefs transformation [12]. It was enriched by teachers' quotes during this research. As we can see, teachers formulated four positions concerning the usage of ICT tools.

A part of the results didn't match the teachers' beliefs model and a primary hypothesis; therefore, an open coding was used. For example, instead of creativity and critical thinking as the main axes other topics as the major for teachers were found.

Teachers' beliefs change
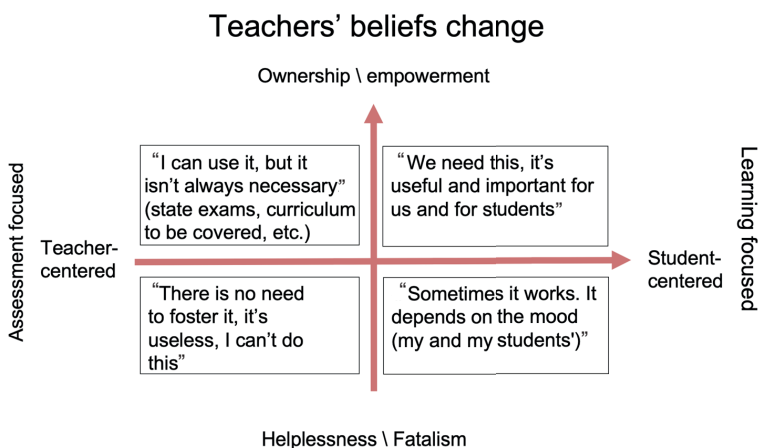
Fig. 1. Adapted model of professional beliefs

Mikhailova A.M., Pinskaya M.A. Practices That Change Teachers' Beliefs: Use
of ICT for the Development of Critical and Creative Thinking at School
Psychological Science and Education. 2022. Vol. 27, no. 6

These are 1) shifting (more) towards the student-centered pedagogy and 2) teachers' agency, through which they can choose ICT tools for pedagogical goals. Teachers considered ICT as a tool to increase the students' involvement. Also, ICT is seen for them as a tool to obtain feedback.

Below, the model is illustrated with the examples of the interviews. All quotes were coded, and ID was assigned to every participant. During citing this ID is placed at the end of the quote. As an example, we quote a teacher who is talking about his\her attitude towards the usage of mobile phones during the lesson at the beginning of the research.

"If students can use mobile phones during the lesson it's too distracting! **There is no any lesson at all**! We can use mobile phones during neither lessons nor extracurricular activities".

And that is the teacher's answer on the outcome of this research:

"Now I have mixed feelings about it. On the one hand, I can see the students' interest and that's really enable us to gain more information to work on. On the other hand, I am still heavy-hearted because of the usage of mobile phones in class. But it's really important that **students not just attend classes**. They are involved in the activity". (W2R2-T12[1]).

More to the point, teachers accepted new tools guided by the students' reactions and behaviour change. The students' involvement into the classwork became a reason for a lesson change. That is the acceptance of new tools and method of organization of the lesson.

"They really liked [to use a service], and they asked me about it everyday after that. I said: "Hey, hold on, we can't use it daily. Maybe we can do it in a day?" And they said: "Alright". So, we came to an agreement". (W2R2-T9)

"It was really important for me, when students said that they liked going to school. "Now I want to attend classes", they say. It was music to my ears. It was not in vain. We had to use it long ago". (W2R2-T12)

"Today's lesson was really good. I liked it a lot. I think, the topic was quite interesting — and it was interesting for students as well. [...] Everybody worked hard with no exceptions. Even usually inactive students were involved in the discussion. I just walked through the class, monitored and observed them. I thought: 'Wow, it's so cool'" (laughs). (W2R1- T13)

Teachers described that the focus of the lesson shifts from the teacher's action to active the classwork form. Their role in a class has changed too due to the new tools. Teachers point out to their observer's role while giving a chance to students to prove themselves independently.

"And in 4C lessons they are divided into two groups and that's it, they started working. Of course, I organized the whole work at first, but the rest of the time I just monitor". (W2R2-T4)

"I remember two lessons when they didn't want to finish the work. They said: "That's all, goodbye, Teacher, you can go, we will finish the work by ourselves". I think that such a reaction is a good sign that they liked it. It was a real joy to watch". (W2R1-T4).

Discussion

Job-embedded professional development became popular in the nineties. The most significant factor in this format is a relevant context for each teacher's professional goals and activities [21]. This research might become an argument for usage of this method. A teachers' involvement in researching and reflecting upon

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[1] Hereinafter: ID, which is assigned to each teacher for coding and decoding.

Михайлова А.М., Пинская М.А. Практики, меняющие представления учителей:
ИКТ на уроках, формирующих критическое и креативное мышление
Психологическая наука и образование. 2022. Т. 27. № 6

their own activities can become a base for a more effective professional growth, which includes continuous change of practice and feedback on this practice. This method makes a school a self-training organisation where a teacher can share his/her experience systematically [20].

This research has some limitations. Teachers' incoherence in opinions and actions can be an obstacle to full participation in the research. It takes a lot of time to fully obtain any new practice, and it also depends on the primary level of using any ICT tools. The lack of this competences in the beginning could be a problem, which teachers could not solve and thus could "stuck" in their progress or leave the training in the middle of the research. Moreover, we should keep in mind that positive results might be seen for those teachers, who were already interested in this type of professional development. They agreed to the research initially as they could be already more student-oriented than those who declined [8].

It should be noted that several issues, which are connected with the topic of teachers' beliefs transformation, but were not the focus of our attention and thus should be developed further. First and foremost, can we say that the change in practice lead to different educational outcomes? The outcomes could be considered as both subject competences and critical and creative thinking. To answer this question, an experimental methodology would suffice. Such a research might be focused on the results of the organisation analysis and students' learning activity within a specific pedagogical context. This methodology also can be based on video analysis of teachers' practices, for example within the scope of researching corpora TALIS [22].

Conclusion

According to the research, we can assume how teachers' beliefs change. Teachers' beliefs can change during the ICT tools implementation in their practice if a teacher has a research interest, or a reflective position. Thus, if a teacher has an experience in ICT tools usage and reflection about new practice than his/her beliefs are more probable to change [21].

Teachers master new methods and classwork organisation forms in a lesson. At the same time, teachers connect critical and creative thinking to a specific classwork form instead of pedagogical or psychological conceptions that might seem more abstract to participants [2]. In final interview, most of the teachers described "2C" competences via group work or specific activities, or technics (e.g. mind maps), which they could acquire during the research. However, they didn't define the concept of "2C" explicitly though the whole training process was dedicated to that.

For teachers, the argument in favour of fostering "2C" competences and the implementation of ICT tools became interesting to studentsin new classwork forms. ICT had the value for teachers when they started using it and saw students' involvement, positive feedback, and interest. Also, teachers accept ICT tools by perceiving its ease-of-use and usefulness to practice it for clearly stated pedagogical goals. This conclusion confirms current ICT implementation models, such as "Technology acceptance model" [11].

Such conclusions allow us to make a few remarks about teachers' professional development. There are two types of professional development for in-service teachers: traditional training and on-the-job training. Traditional training includes field seminars, lectures, conferences, and they have limited effects, as such a training leads only to incremental changes (not fundamental) or to "horizontal" (not "vertical") changes. It can be done technically, or superficially without any practice change [8; 9].

Mikhailova A.M., Pinskaya M.A. Practices That Change Teachers' Beliefs: Use
of ICT for the Development of Critical and Creative Thinking at School
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of ICT for the Development of Critical and Creative Thinking at School
Psychological Science and Education. 2022. Vol. 27, no. 6

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Attitude of Schoolchildren towards Emergency Distance Learning: Relations with Intrinsic Motivation and School Satisfaction

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The results of a study of retrospective attitudes towards distance learning during the COVID-19 pandemic among secondary school students are presented (N=439, grades 5—8th). Motivational predictors of this relationship were analyzed, explaining the individual differences among schoolchildren in their preference for distance learning. With the help of structural equation modeling, it is shown that a negative attitude towards distance learning that took place in the recent past, compared to traditional learning, is associated with greater satisfaction of their basic needs for autonomy, competence and relatedness with teachers and classmates, and this relationship is mediated by intrinsic learning motivation, which, in turn, predicts attitudes towards forced distance learning, school satisfaction, and academic performance. It is shown that intrinsically motivated schoolchildren who are interested in the educational process, in general, have a negative attitude towards the forced distance learning that took place during COVID-19 pandemic and would not want it to return.

Keywords: forced distance learning, attitude towards distance learning, intrinsic motivation, basic psychological needs, online education, COVID-19, schoolchildren.

Gordeeva T.O., Sychev O.A., Stepanova M.A. Attitude of Schoolchildren towards Emergency Distance
Learning: Relations with Intrinsic Motivation and School Satisfaction
Psychological Science and Education. 2022. Vol. 27, no. 6

Отношение школьников к вынужденному дистанционному обучению: связь с внутренней мотивацией и удовлетворенностью школой

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Представлены результаты исследования ретроспективного отношения к дистанционному обучению во время пандемии COVID-19 у школьников средних классов школ (N=439, 5—8-й классы). Изучены мотивационные предикторы этого отношения, объясняющие индивидуальные различия школьников в предпочтении дистанционного обучения. С помощью структурного моделирования показано, что негативное отношение к имевшему место в недавнем прошлом дистанционному обучению сочетается с большей текущей удовлетворенностью базовых потребностей в автономии, компетентности и связанности с учителями и одноклассниками. Эта зависимость опосредована внутренней мотивацией, в свою очередь предсказывающей отношение к вынужденному дистанционному обучению, удовлетворенность школой и успеваемость. Показано, что внутренне мотивированные школьники, заинтересованные учебным процессом, в целом негативно относятся к вынужденному дистанционному обучению, имевшему место во время пандемии COVID-19, и не хотели бы его возврата.

Ключевые слова: вынужденное дистанционное обучение, отношение к дистанционному обучению, внутренняя мотивация, потребности, онлайн-образование, цифровая образовательная среда, COVID-19.

Introduction

By the end of April 2020, schools were closed in 178 countries around the world, affecting approximately 98% of schoolchildren (1.3 billion). The period of emergency online learning (EOL) resulting from the COVID-19 pandemic has proved to be not only a serious challenge for those who teach, but also a potential stressor for students and especially schoolchildren. Due to the compulsion, universal obligation, unexpectedness, extremeness and unpreparedness of distance education in case of COVID-19, previous studies comparing the effectiveness of distance learning and face-to-face education are not entirely relevant (see, for example, [1]) and the current situation requires separate consideration. The main problems of forced distance learning at school include the following: the impossibility of using a number of previously used teaching methods, limited communication between teachers and students, the inability to monitor the level of independence of the tasks they perform, the overload of students with tasks, the failure of students to receive the proper level of feedback from teachers, the need to apply more independent efforts to master subjects by students [9; 10].

The study of the attitude of schoolchildren and students to forced distance learning is not only of practical interest, due to the possibility of a repetition of such a situation, but also of theoretical interest — as an opportunity to test models of motivational processes developed on the basis of ordinary educational situations of offline learning to the situation of forced online.

In a study of Swiss schoolchildren in 4th-8th grade conducted during the COVID-19 pandemic, using multilevel structural modeling, it was shown that students who were more autonomously motivated and focused on learning during pandemic had a more positive attitude towards this educational format. Another predictor of positive attitudes was the relatively low level of stress their parents experienced regarding EOL, with the level of stress being more pronounced if COVID-19 was perceived as a threat [13]. On the other hand, the study by Nevryuev et al. [4] showed that students' preference for distance learning is predicted by emotional burnout and alienation from studies. Gender differences were revealed in relation to this form of education: girls of primary school age perceive it less positively than boys and feel more threatened due to COVID-19 [13].

Intrinsic motivation is one of the most significant indicators of the quality of the motivational process and predictors of persistence, adaptive coping with learning difficulties, and academic performance [2]. In a recent meta-analysis of intrinsic and various types of extrinsic academic motivation [16], covering 344 samples and 223,209 high school students, it was shown that intrinsic motivation is not only the best predictor of academic achievement, but also a predictor of many indicators that characterize well-being, such as positive and negative affect, life satisfaction, social-emotional functioning.

A study of indicators of student engagement, satisfaction with learning, and subjective learning competence before and during the pandemic among students shows that all of them decrease during the pandemic [7]. At the same time, it is shown that the decrease in enthusiasm, subjective competence and satisfaction with studies is less pronounced in students with a higher level of intrinsic and integrated motivation and a lower level of amotivation in learning. Intrinsic motivation and self-esteem (identified) motivation act as variables that determine students' acceptance of the digital educational environment during forced online learning during the last pandemic, and amotivation is much more pronounced in the group that has a negative attitude towards distance learning [6].

According to the self-determination theory, proposed by E. Deci and R. Ryan, three basic psychological needs — autonomy, competence and relatedness — are external sources of in-

Gordeeva T.O., Sychev O.A., Stepanova M.A. Attitude of Schoolchildren towards Emergency Distance
Learning: Relations with Intrinsic Motivation and School Satisfaction
Psychological Science and Education. 2022. Vol. 27, no. 6

trinsic motivation. The role of satisfaction of basic needs in the specifics of learning motivation during the period of forced distance learning was analyzed in a number of studies with the participation of schoolchildren [12; 15] and students [14]. Research confirms the important role of all three basic needs for intrinsic motivation, involvement in learning, and positive emotions in the context of distance learning. Some differences in the results relate only to the role of the relatedness need. It is of interest to further analyze the role of this need, also considering the fact that it was most frustrated among young people during the pandemic [11; 20]. The need for relatedness can be especially frustrated in EOL in adolescents, whose leading activity is intimate-personal communication. This assumption is also consistent with the data of a recent study of parents of adolescents on EOL education: parents complain about the social isolation that arose because of their children's transition to EOL education, the lack of interactivity, and increased screen time [17].

Considering previous studies of students' negative attitudes towards EOL and its psychological sources, the main hypothesis of the study was that intrinsically motivated students in the post-pandemic (not online) period will have a higher level of satisfaction of basic psychological needs and a more negative attitude towards what they had in recent past EOL.

Method

Sample and procedure. The sample comprised 439 students of the fifth (12% of the sample), sixth (34%), seventh (26%), and eighth (28%) grades from a secondary school in Moscow, of which 245 (56%) were boys, 167 (38%) girls, 27 (6%) did not specify gender. The mean age was 12.93 years old (SD = 1.06). The study was conducted face-to-face, in the classroom, at the invitation of the school psychologist. Participation was voluntary, feedback or rewards were not provided. The study was conducted immediately after the lifting of restrictions in schools and the return to face-to-face education (Spring 2021).

Measures. The Academic Motivation Scale for schoolchildren and college students [3] which is a Russian version of AMS developed by R. Vallerand and his colleagues (1992) was used to assess different types of academic motivation. The questionnaire includes eight scales that allow to assess three types of intrinsic motivation — motivation to learn, achievement motivation and self-development motivation; four types of extrinsic motivation — identified/ self-respect motivation, introjected, positive external, negative external, and amotivation. In contrast to similar foreign studies [13], using this and the following questionnaire we measured the motivation to study normally at school, not the motivation to study in a distance format. The coefficients of internal consistency (Cronbach's α) of all questionnaires and scales used in our study are presented in Table.

Satisfaction of basic psychological needs in learning activities was assessed using a questionnaire consisted of 15 items, forming four scales: the need for autonomy, competence, relatedness with classmates and teachers. Considering two different sources of satisfaction of the need for relatedness in adolescence, we evaluated its two subspecies. Using a 4-point Likert scale, the subjects assessed how much they agreed with each option to continue the phrase "Today at school...", for example: "we could choose which tasks to do and what to discuss" (Autonomy), "I was good at everything" (Competence), "I felt that I liked my teachers" (Relatedness with teachers), "I felt that I liked the guys in the class" (Relatedness with classmates). The results of the confirmatory factor analysis indicate a good fit of the four-factor model to the data: $\chi^2 = 150.75$; df = 84; p≤0.001; CFI = 0.968; TLI = 0.960; RMSEA = 0.043; 90% confidence interval for RMSEA: 0.031-0.053; PCLOSE = 0.866 (WLSMV estimation method).

The preference for distance learning was assessed using three items: "I liked studying online (at home)", "I would be better if we stayed to study online at home", "I would not

like to study online anymore", each of which allowed five answer options from 1 — completely disagree, to 5 — completely agree. After inverting the last question, the average score was calculated on a scale estimating a positive attitude towards distance learning.

Satisfaction with school and relationships with teachers was assessed using two relevant subscales from the Multidimensional Students Life Satisfaction Scale by E.S. Huebner in Russian adaptation [8].

GPA. Academic performance was assessed on the basis of self-reported data: grades obtained during the survey in seven academic subjects (Math, the Russian language, Literature, Biology, History, Foreign language no. 1 and Foreign language no. 2) for the past quarter. Schoolchildren were asked to indicate their grades in the above subjects for the last quarter. Along with the marks obtained from the respondents for each of the subjects separately, the overall average grade obtained by averaging these marks for all the listed disciplines was also used.

The analysis of the relationships between the studied indicators and intergroup differences was carried out using the Pearson correlation coefficient and Student's t-test in the R statistical environment. In order to analyze a holistic system of relationships between indicators of intrinsic motivation, satisfaction of basic needs, academic performance (GPA) and attitude to distance learning, a structural linear modeling was implemented using Mplus 8 [21]. Bootstrap analysis (5000 samples) was used to assess the statistical significance of mediated effects in Mplus [18; 19].

During statistical analysis of the data, considering the large number of statistical tests performed, effects that were significant at p≤0.001 were considered as statistically significant.

Results

Results of analysis of correlations and intergroup differences. The correlations shown in the Table indicate the expected direct relations of the three types of intrinsic motivation with the satisfaction of basic needs, satisfaction with relationships with teachers and school, and the academic performance. At the same time, all intrinsic motives showed inverse correlations with the attitude to distance learning. Various types of extrinsic motivation and amotivation also showed expected correlations with the other variables (see Table).

Satisfaction with all basic psychological needs is directly related to satisfaction with relationships with teachers and school, and inversely with the attitude towards distance learning. At the same time, direct correlations with academic performance were found for the need for competence and relatedness with the teacher. Satisfaction with school and relationships with teachers turned out to be inversely related only to attitudes towards distance learning, while their relationship with academic performance was not found. There was also no correlation between performance and attitudes towards distance education.

Gender differences. Comparison of the means in the groups of boys and girls showed that only difference in academic performance (t(410)= 5.25; p≤0.001) has high statistical significance, while its magnitude is moderate (Cohen's d=0.50, girls have higher GPA). Less significant (at p≤0.01) differences were found in motivation for self-development (t(410)= 2.95; p≤0.01) and satisfaction of the relatedness need with teachers (t(410)= 2.90; p≤0.01): in both cases, the mean value for girls is higher than for boys.

Using one-way ANOVA we did not find statistically significant differences between students in the fifth, sixth, seventh, and eighth grades in academic motivation and preference for distance learning.

Results of structural modeling. We considered as dependent variables the factors of satisfaction with the school, academic performance, and attitudes towards distance education. It was assumed that intrinsic motivation, dependent on the satisfaction of basic

Table

Intercorrelations and descriptive statistics of motivations, attitudes towards distance learning and academic performance (N=439)

Scales and measures	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Intrinsic M: Mot. to learn	-															
2. Intrinsic: Achievement mot.	0.69*	-														
3. Intrinsic: Self-development mot.	0.73*	0.65*	-													
4. Self-respect mot. (identified)	0.52*	0.43*	0.73*	-												
5. Introjected motivation	0.28*	0.20*	0.38*	0.52*	-											
6. Positive external motivation	0.03	0.06	0.20*	0.40*	0.55*	-										
7. Negative external motivation	-0.22*	-0.19*	-0.10	0.12	0.44*	0.60*	-									
8. Amotivation	-0.52*	-0.40*	-0.50*	-0.39*	-0.18*	0.04	0.29*	-								
9. Need for autonomy	0.49*	0.46*	0.48*	0.37*	0.14	0.03	-0.15	-0.34*	-							
10. Need for competence	0.45*	0.47*	0.50*	0.31*	0.13	0.01	-0.13	-0.33*	0.48*	-						
11. Need for relatedness with teachers	0.48*	0.39*	0.45*	0.33*	0.23*	0.02	-0.12	-0.39*	0.53*	0.47*	-					
12. Need for relatedness with classmates	0.36*	0.28*	0.34*	0.22*	0.16*	0.05	-0.11	-0.28*	0.38*	0.28*	0.36*	-				
13. Satisfaction with school	0.65*	0.54*	0.56*	0.38*	0.18*	0	-0.21*	-0.56*	0.56*	0.39*	0.54*	0.40*	-			
14. Satisfaction with relationships with teachers	0.58*	0.51*	0.49*	0.33*	0.19*	0.02	-0.16*	-0.42*	0.50*	0.42*	0.67*	0.34*	0.70*	-		
15. Attitude towards distance learning	-0.31*	-0.25*	-0.26*	-0.19*	-0.09	0.01	0.10	0.29*	-0.27*	-0.17*	-0.21*	-0.21*	-0.44*	-0.27*	-	
16. Academic performance	0.25*	0.17*	0.23*	0.13	-0.04	0	-0.15	-0.23*	0.01	0.28*	0.18*	0.09	0.12	0.14	-0.02	-
17. Age	-0.09	-0.10	-0.13	-0.14	-0.07	-0.10	-0.05	0.09	-0.10	-0.13	-0.05	-0.01	-0.13	-0.06	0.03	-0.08
Cronbach's α	0.85	0.87	0.82	0.81	0.57	0.85	0.70	0.84	0.70	0.81	0.77	0.81	0.82	0.87	0.85	-
Means	3.21	2.72	3.3	3.47	3.33	3.21	3.44	2.41	2.23	2.74	2.6	2.79	2.74	3.07	3.48	4.26
Standard deviations	0.98	1	0.97	1.03	0.86	1.18	1.06	1.13	0.66	0.74	0.85	0.86	0.84	0.93	1.26	0.45

Note. Significance: * — p ≤ 0.001. The numbers of variables in the column headings of the table correspond to the numbers of variables in the rows.

needs, is their common predictor. Satisfaction with relationships with teachers was also considered as a predictor of school satisfaction, for which covariance with satisfaction of basic needs was allowed. Considering the fact that one of the indicators of satisfaction of basic needs is the satisfaction of the need for relatedness with teachers, a cross-loading of this indicator on the factor of satisfaction with relations with teachers was added to the model. In addition, according to the revealed correlation between the relationship between distance learning and school satisfaction (see Table), a covariance between the relevant factors was added to the model.

The estimation of this model (see Fig.) showed an acceptable fit to the data: $\chi^2 = 769.79$; $df = 367$; $p \leq 0.001$; CFI = 0.926;

TLI = 0.918; RMSEA = 0.050; 90% confidence interval for RMSEA: 0.045—0.055; PCLOSE = 0.493; N = 439. Analysis of the statistical significance of mediated through intrinsic motivation effects of satisfaction of basic psychological needs showed that such effects are statistically significant at $p \leq 0.001$ for preference for distance learning (standardized mediation effect $ab_{cs} = -0.30$), school satisfaction ($ab_{cs} = 0.34$), and academic performance ($ab_{cs} = 0.22$).

Thus, the results show that the intrinsic motivation is the predictor of negative attitudes towards distance learning, which in its turn depends on the satisfaction of the basic psychological needs of schoolchildren and also determines higher school satisfaction and academic performance (GPA).
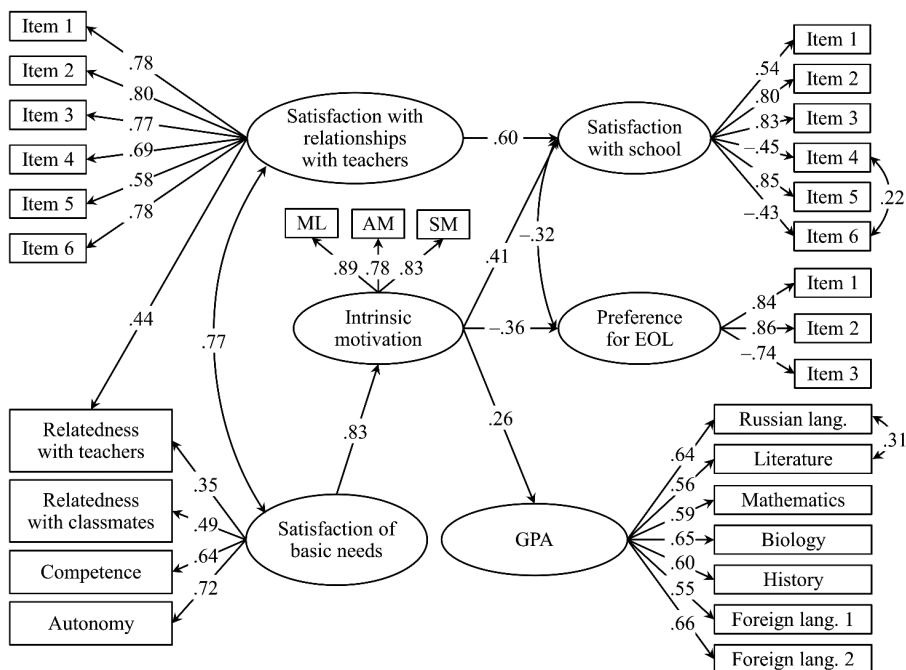
Fig. Structural model of relationships between intrinsic motivation, satisfaction with school and relationships with teachers, academic performance and attitudes towards distance learning (EOL — emergency online learning, ML — motivation to learn, AM — achievement motivation, SM — self-development motivation, lang. — language, all the coefficients are standardized and significant at $p \leq 0.001$, residuals are omitted for the sake of parsimony)

Gordeeva T.O., Sychev O.A., Stepanova M.A. Attitude of Schoolchildren towards Emergency Distance
Learning: Relations with Intrinsic Motivation and School Satisfaction
Psychological Science and Education. 2022. Vol. 27, no. 6

Thus, the results show that the predictor of negative attitudes towards distance learning is the intrinsic academic motivation, which, in turn, depends on the satisfaction of the basic psychological needs of schoolchildren and also determines higher school satisfaction and good academic performance.

Discussion

The data obtained relate to the reasons for the negative attitude of adolescent schoolchildren to distance learning, which is certainly specific for this version of distance learning, since it was forced, unexpected and implemented without proper preparation in organizational, psychological, as well as methodological and technical terms. Turning to the problem of intrinsic motivation that is our main interest, we note that, apparently, schoolchildren intrinsically motivated by ordinary (off-line) studies and distance learning will differ from each other. We have shown that students who are intrinsically motivated and satisfied with the school have a negative attitude towards the EOL that took place and would not want it back. The discovered phenomenon may be related to the lower satisfaction of students with forced distance learning, its overall lower efficiency compared to face-to-face education, and its specifics that do not support engagement and intrinsic motivation. This testifies the need to develop special technologies and teaching methods in case a temporary transition to this format.

The results of our study are in good agreement with the conclusions obtained in the study by Nevryuev et al. [4] on a sample of students, where positive attitude towards EOL was predicted by emotional burnout and alienation from learning. Since these negative states are known to be combined with a decrease in intrinsic motivation for learning and subjective well-being [5], we expected the negative relationships of intrinsic motivation and school satisfaction with negative attitudes towards distance learning found in our study. The fact that Nevryuev and colleagues' results were obtained on a student sample, and similar results of our study were obtained on schoolchildren, indicates the universality of the identified phenomena, their prevalence in groups of different ages of students. At the same time, our data did not confirm the opposite relationships found among students [4] of attitudes towards distance learning and academic performance; verification and refinement of this conclusion is one of the prospects of this study. Also, in accordance with the data of previous studies [3; 15] our results show that all three indicators of intrinsic motivation are associated with academic performance.

Comparison of the results of our study with the results of other researchers [12; 14] concerning the role of basic psychological needs in intrinsic motivation and engagement in EOL confirms the conclusions obtained on the Chinese sample [12], in which an approximately equal contribution of each need was demonstrated. Thus, the results obtained in our study once again confirm the universality of the self-determination theory and the applicability of its basic statements not only to regular life situations, but also to situations of force majeure, in this case, based on the attitude of schoolchildren to forced distance learning.

Conclusion

For the first time, a study of attitudes towards distance learning during the COVID-19 pandemic was conducted among middle school Russian students; motivational predictors of this attitude were identified that explain individual differences in schoolchildren's preference for distance learning. The results obtained relate to a specific variant of EOL, i.e. carried out involuntarily, unexpectedly and without proper technical, methodological and psychological preparation.

The negative attitude towards the EOL that took place, in comparison with traditional learning, is associated with a greater satisfaction of their basic needs for competence, autonomy and relatedness with teachers and classmates, and this relationship is mediated by intrinsic learning motivation, which in turn predicts the attitude towards the recent EOL that took place, as well as school satisfaction and academic achievement.

The results obtained testify to the lower psychological effectiveness of the forced distance learning that took place compared to traditional full-time face-to-face education, indicating the importance of systematic work to master the existing tools of distance learning, the development of new technologies for distance learning of schoolchildren and the need for psychological support for teachers and students in emergency situations that violate habitual learning processes.

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Gordeeva T.O., Sychev O.A., Stepanova M.A. Attitude of Schoolchildren towards Emergency Distance
Learning: Relations with Intrinsic Motivation and School Satisfaction
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Analysis of Task Comparability in Digital Environment by the Case of Metacognitive Skills

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This article discusses the problem of task comparability with the help of scenario-based tasks for metacognitive skills. Using the data of "4C" tool for measuring critical thinking (N=500), the comparability of two scenarios within an identical digital environment with one set of indicators was investigated. The main difference in the scenarios lies in the contextual characteristics. The measurement invariance analysis of the instrument using confirmatory factor analysis was conducted. The results show that even with the equivalent construct structure and tasks' characteristics, the context of the scenario has an effect on the student`'s performance. The main differences in results were recorded for tasks involving interaction with the environment, where the test-taker created an object with elements. Tasks involving working with text in a digital environment can be considered comparable in case of elements content change. The possible reasons behind the observed differences in scenarios are discussed.

Keywords: critical thinking, test comparability, scenario-based tasks, contextualized items, confirmatory factor analysis, measurement invariance.

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Грачева Д.А.
Анализ сопоставимости измерения метапредметных навыков в цифровой среде
Психологическая наука и образование. 2022. Т. 27. № 6

Анализ сопоставимости измерения метапредметных навыков в цифровой среде

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Представлены данные исследования сопоставимости измерения метапредметных навыков с помощью сценарных заданий. На данных инструмента «4К» для измерения критического мышления (N=500) исследована сопоставимость двух вариантов сценариев внутри идентичной цифровой среды, с одним набором индикаторов. Отмечается, что основное различие в сценариях заложено в контекстных элементах. Проведен анализ инвариантности инструмента по вариантам с использованием метода конфирматорного факторного анализа. Установлено, что при эквивалентных характеристиках заданий контекст сценария оказывает эффект на результаты. Различия в оценках зафиксированы для задач, предполагающих более свободное взаимодействие со средой, где тестируемый самостоятельно собирает объект из предложенных элементов. Задания, включающие работу с текстом в цифровой среде, могут считаться сопоставимыми при изменении элементов контекста. Обсуждаются возможные причины, стоящие за различием в оценках по вариантам сценариев.

Ключевые слова: критическое мышление, сопоставимость тестов, сценарные задания, контекст заданий, конфирматорный факторный анализ, измерительная инвариантность.

Introduction

Assessment of complex constructs is a new trend in educational testing. An example of such a construct is critical thinking, which is referred to as meta-subject skill. However, it is difficult to measure meta-subject skills with traditional item types, such as multiple-choice items. Scenario-based tasks in the digital environment have great potential to solve this problem.

Scenario-based tasks resemble a computer game in which a student is faced with a situation where he needs to solve a number of problems. The student's actions during the test are considered observable evidence of the measured skill — indicators. Scenario-based tasks demonstrated students' behavior that they are likely to perform in similar situations in real life, which is especially

Gracheva D.A.
Analysis of Task Comparability in Digital Environment by the Case of Metacognitive Skills
Psychological Science and Education. 2022. Vol. 27, no. 6

important in the assessment of meta-subject skills [7].

In practice, the use of scenario-based tasks faces many challenges. Among them are low reliability, a small number of tasks, and weak correlation with alternative measurements. In general, the problem with a comparability of measurements is typical for tasks with a focus on the process and product (performance-based tasks): scenario-based tasks, essays, experiments, etc. [6]. Previous attempts to create comparable experiments were unsuccessful, despite the fact that researchers use the same design principles [17].

The first step in the development of a new scenario is the selection of a suitable context. The context is a set of task characteristics that defines the situation where the test-taker will be able to demonstrate the desired skills. The degree of correspondence between the context of scenario-based tasks to each other is directly related to the degree of their comparability. However, the comparability of tasks with context is an underdeveloped area of research [6].

The purpose of this article is to analyze the comparability of scenario-based task forms aimed at measuring critical thinking. Scenario forms contain the same number of indicators and are implemented in an identical digital environment, but differ in contextual elements.

The article is structured as follows: in the first part, previous studies of tasks with context are considered, as well as the methods that are used to analyze the comparability of test forms; the second part presents the results of the analysis of the comparability of scenario-based task forms. The article ends with a discussion of the results, limitations, and further directions of the study.

Literature Review
of Contextualized Tasks

The concept of context and its relationship with the psychometric characteristics of tasks and test results is studied on the example of questionnaires, essays, as well as game-based, and scenario-based tasks.

In a study of personality questionnaires, it was shown that clarification of the context leads to an improvement in psychometric characteristics by reducing the number of interpretations of statements [14].

For essays, the comparability of the tasks with various topics and stimulus materials in the format of pictures was analyzed [9].

In the field of computer games, research on the role of the interface on test results was carried out. For example, in [15] it was found that the choice of a character was associated with the behavior of the test-taker within the game environment.

The idea of the context of the virtual world as a stimulus for creative solutions was studied in [10]. In the study, test-takers "immersed themselves" in different virtual worlds using virtual reality helmets, and then drew a non-existent animal. The ideas of these drawings differed significantly depending on the context presented.

On the example of PISA tasks in science, the characteristics of the context (the degree of abstractness, the purpose of the context, etc.) and their relationship with students' achievements were studied [13].

The use of tasks with context is a promising approach for measuring complex skills. At the same time, the context can be considered as a factor that affects the characteristics of tasks and test results. A range of methods used for comparability analysis will be discussed in the next section.

Overview of Methods
for Comparability Analysis

Comparability of test forms is carried out by qualitative and quantitative methods that can complement each other.

Qualitative methods include the use of test design principles and the involvement of experts to assess the comparability of items.

Грачева Д.А.
Анализ сопоставимости измерения метапредметных навыков в цифровой среде
Психологическая наука и образование. 2022. Т. 27. № 6

Test design principles include the use of a test specification to create test forms. However, it has been found that open-ended items created according to the same specification are not always comparable [8].

The opinion of experts is used to assess at what extent the topic of the task covers a general or highly specialized issue [11].

Quantitative methods include the use of statistical methods for comparability analysis. The choice of statistical method depends on the purpose of the study. If the purpose of the study is to evaluate differences between groups, then t-test or ANOVA can be used. For the purpose of predicting the results of future tests, regression analysis is more suitable, and correlation analysis can be considered as a measure of the similarity of results across test forms.

However, the process of analyzing the comparability of test forms goes beyond working with raw test results. To consider test forms comparable, it is necessary to make sure that they measure the same construct, tasks have similar psychometric characteristics [3].

Testing of these assumptions is possible within the methodology of confirmatory factor analysis (CFA) or Item Response Theory (IRT). For example, CFA was used to test the functioning of the tool in different modes [16].

In this article, we focus on the application of CFA to the analysis of test forms comparability. Since data in education is often categorical, the case of CFA for ordinal variables is considered. To analyze the comparability within the framework of CFA the analysis of measurement invariance of the instrument is conducted. Comparability studies usually consider three levels of invariance: configural, metric, and scalar.

At the configural level, the comparability of the construct structure in all groups is checked [12]. At the metric level, the values of factor loadings are assumed to be equal in all groups. At the scalar level, the equality of threshold values is tested (in the case of a categorical CFA). When the level of scalar invariance is reached, it is possible to compare the mean values of latent factors between groups.

Thus, the measurement of complex skills requires the use of statistical methods aimed at studying the structure of the test. For example, CFA is such a method. Further, this method will be used to analyze the comparability of scenario-based task forms.

Characteristics of the Sample, Methods, Data Collection Procedures and Strategy of Analysis

Sample

The article uses data from 500 fourth grade students who participated in the assessment of 21st century skills in Fall 2020 as part of the project "4K of the modern world. Formation of competencies in the 21st century and assessment of individual progress in their development" with the support of the "Investment to the future" Charitable Foundation.

Instrument

Critical thinking is assessed using computerized scenario-based tasks from the "4C" instrument developed by the staff of the Center for Psychometrics and Measurements in Education (HSE University). The validity of the tool has been proved in multiple test trials [2].

In this work, the comparability of a pair of scenarios for measuring critical thinking, "Aquarium" and "Terrarium", is analyzed. According to the conceptual framework of the instrument, critical thinking skill includes two components: 1) "Analysis of information" — the skill of working with information in accordance with the goals and conditions of the task; 2) "Making inferences" — the skill of formulating one's own inference using the results obtained at the stage of working with information [2].

Gracheva D.A.
Analysis of Task Comparability in Digital Environment by the Case of Metacognitive Skills
Psychological Science and Education. 2022. Vol. 27, no. 6

The "Aquarium" task invites test-takers to set up an aquarium for crabs. For the assessment of ability to work with information, a simulation of an Internet browser is used in the task, where the text of the article is presented (Fig. 1). The text of the article includes both relevant and irrelevant sentences. Relevant sentences contain information that will be needed to equip an aquarium for crabs (for example, "Crabs need flagstones to get out of water"). Irrelevant sentences contain information that is not relevant to the task. For each highlighted relevant sentence, 1 point is awarded.

Indicators of the ability to make inferences are evaluated in an interactive environment (constructor), where the test-taker builds an aquarium for the crab from elements based on information from the text (Fig. 2). For each correctly added element, 1 point is awarded.

In the "Terrarium" scenario, test-takers face the same tasks with different content, where the main goal is to build a terrarium for geckos.
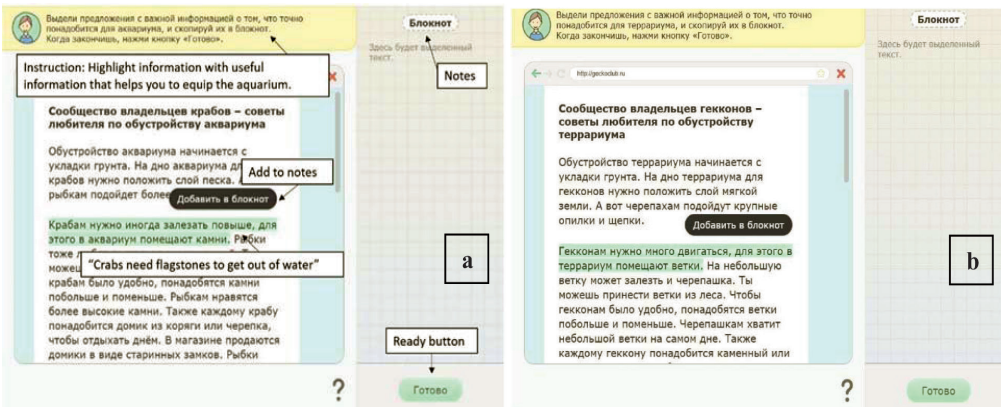
Fig. 1. Stimulus material (text): a — "Aquarium", b — "Terrarium"
(in Russian, translation is provided on the example of "Aquarium")
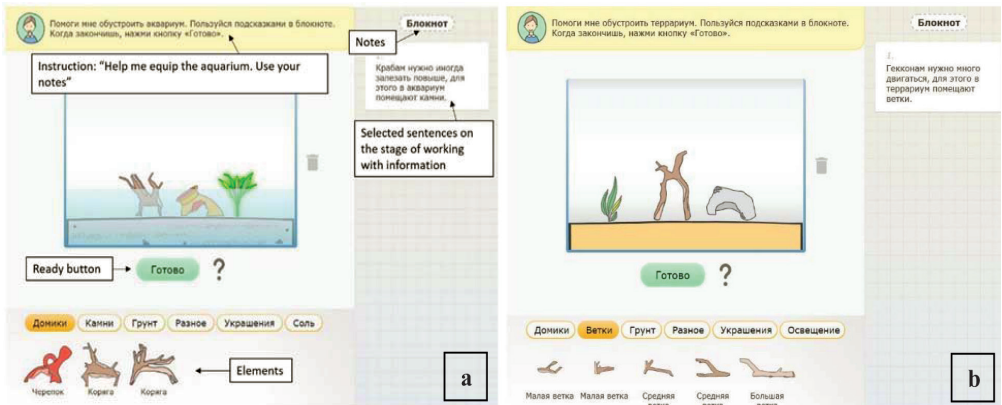
Fig. 2. Stimulus material (constructor): a — "Aquarium", b — "Terrarium"
(in Russian, translation is provided on the example of "Aquarium")

Грачева Д.А.
Анализ сопоставимости измерения метапредметных навыков в цифровой среде
Психологическая наука и образование. 2022. Т. 27. № 6

The skill "Analysis of information" is measured with 14 dichotomous indicators, the skill "Making inferences" with 10 indicators (8 dichotomous and 2 polytomous from 0 to 2 points).

Procedure

Testing sessions took place in schools in the presence of a testing administrator. Each participant was provided with a computer with Internet access. At the start of a test session, administrators opened the test website on computers and give individual logins to students to log into the system. All instructions and tasks were presented in computer format.

In the research we used a balanced design, in which both scenarios were performed by the same test takers. The sample was randomly divided into two groups. The first group took the "Aquarium" task first, and then the "Terrarium" task, the second group completed the tasks in the reverse order. This design made it possible to control the effect of the order on the results of the comparability analysis. The break between testing sessions ranged from one day to a week.

Strategy of analysis

The study of the comparability of scenario-based tasks forms was carried out using CFA. The analysis included two stages. At the first stage, the structural model of critical thinking was proposed, which was separately tested for scenario forms. At the second stage, the measurement invariance of the general model was tested for two scenarios.

The weighted least squares method (WLSMV) was used as a parameter estimation method, which is most suitable for ordinal and binary data. The quality of the models was assessed by the following indices: CFI>0.90; TLI>0.90; RMSEA<0.05 [12].

The invariance was tested by sequential comparison of three models (configural, metric, scalar). The difference between the fit statistics (ΔCFI within 0.01, ΔRMSEA within 0.015 to confirm invariance) was taken as a comparison criterion [4]. When scalar invariance is achieved, it is possible to compare the mean values of the latent factors of different groups, where the mean values of the factors for one group are equal to zero, and for the other group are freely estimated.

The critical thinking model contains two main related factors — "Analysis" and "Inference". The model also includes additional orthogonal factors of the stimulus material, which take into account the common source of variance between groups of indicators related to working with text or constructor.

The analysis was carried out in the Mplus program, version 8.3.

Results

The average score for the ability to analyze information is 5.56 points (sd 3.83) for the "Aquarium" scenario and 5.29 points (sd 3.85) for the "Terrarium" scenario. The average score for the ability to make inferences for the "Aquarium" scenario is 8.2 points (sd 2.72), for the "Terrarium" scenario — 8.25 points (sd 2.67). There were no statistically significant differences between the mean values for both the ability to analyze information (t(998)=1.11, p>0.05) and the ability to make inferences (t(998)=-0.29, p>0.05).

Separate models for "Aquarium" (χ2(240)=387.691*, p<0.000; CFI=0.979; TLI=0.976; RMSEA=0.035. 90% CI (0.029;0.041)) and "Terrarium" scenarios (χ2(240)=398.031*, p<0.000; CFI=0.980; TLI=0.977; RMSEA=0.036, 90% CI (0.030; 0.043)) showed good fit with the data. On Fig. 3—4 CFA model and standardized factor loadings for the "Aquarium" and "Terrarium" scenarios are shown.

The results of measurement invariance testing are presented in Table 1. The val-

Gracheva D.A.
Analysis of Task Comparability in Digital Environment by the Case of Metacognitive Skills
Psychological Science and Education. 2022. Vol. 27, no. 6
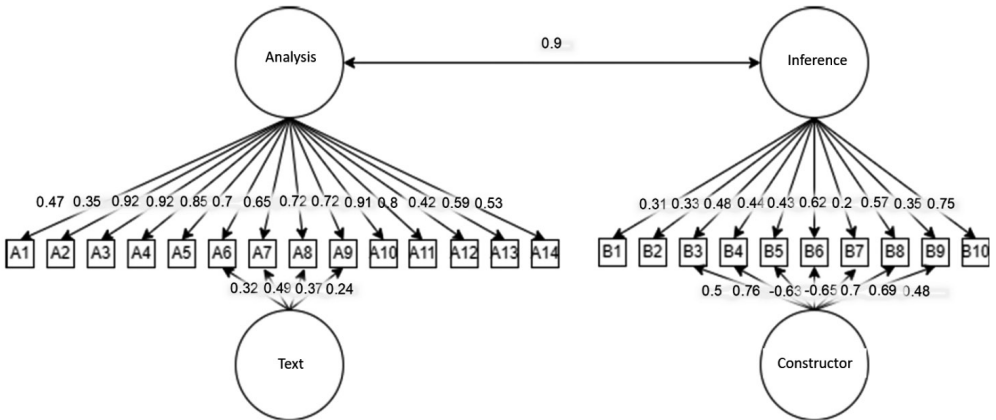
Fig. 3. CFA model ("Aquarium"): all parameters of the model are significant p<0.05
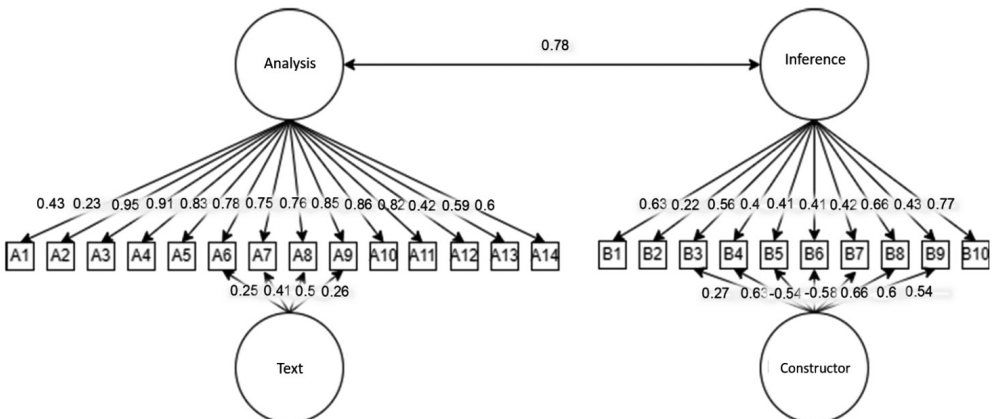
Fig. 4. CFA model ("Terrarium"): all parameters of the model are significant p<0.05

ues of fit statistics for the three models are similar, which makes it possible to assume that the scalar invariance is proved. The structure of critical thinking is reproduced in different scenarios, the psychometric characteristics of the indicators do not differ.

Table 1

Results of measurement invariance testing

Model	χ^2 (df)	RMSEA	CFI	TLI
Configural	785.743* (480)	0.036 (90% CI 0.031; 0.040)	0.979	0.976
Metric	835.083* (511)	0.036 (90% CI 0.031; 0.040)	0.978	0.976
Scalar	915.226* (532)	0.038 (90% CI 0.034; 0.042)	0.974	0.973

Note: * p<0.05.

63

Грачева Д.А.
Анализ сопоставимости измерения метапредметных навыков в цифровой среде
Психологическая наука и образование. 2022. Т. 27. № 6

After checking the levels of invariance and achieving scalar invariance, it is possible to compare the mean values of latent factors for tasks "Aquarium" and "Terrarium" (Table 2).

The mean values for the "Analysis" factor did not differ significantly by task forms. That is, on average, the score for the ability to analyze information can be considered interchangeable in two scenarios when the characteristics of the scenario context change. There were also no significant differences in the mean values of the "Text" factor.

Nevertheless, a significant difference in the mean values for the "Inference" factor is evidence that indicators related to the ability to make inferences are easier in "Terrarium" than in "Aquarium" scenario. The differences are preserved in the constructor factor.

A meaningful interpretation of the factors of the stimulus material is often difficult. However, the results obtained allow us to say that the results of students differ significantly in the part of the scenario where they need to demonstrate the ability to make inferences through working with elements in the constructor.

Discussion

Complex constructs require new measurement approaches. One of the approaches is the use of scenario-based tasks in the digital environment. At the same time, for scenario tasks, the risk of obtaining incomparable results is more pronounced [6].

One threat to comparability is scenario context. In this article, we used the "Aquarium" and "Terrarium" scenarios for measuring critical thinking, which contained the same set of indicators, but differed in contextual characteristics. The analysis of measurement invariance showed that changing the context does not change the theoretical structure of the instrument, and the psychometric characteristics of the indicators did not differ significantly by task forms.

The results of comparing the mean latent factors showed that the test-takers receive lower scores for the ability to make inferences in the "Aquarium" scenario than in the "Terrarium", while scores for the ability to analyze information do not differ by forms.

Due to the data collection design, which respected the random order of forms, we can assume that the differences in the results are not due to the effect of learning in solving similar problems, but due to differences in contextual elements.

Previous research has shown that task context can have an effect on test results. For example, a familiar context can give an advantage in solving problems [5]. In the study of creativity, the context of the "virtual world" was manifested in the drawings of non-existent animals [10].

Another reason for the difference in results could be the type of the tasks within

Table 2

Mean values of latent factors

Factor	Mean values of latent factors for "Terrarium" task	Z-statistic
"Analysis"	-0.089 (0.066)	-1.353
"Inference"	0.211 (0.071)	2.965*
"Text"	-0.003 (0.129)	-0.026
"Constructor"	-0.272 (0.079)	-3.433*

Note: The standard errors of measurement are given in parentheses. The mean values of the factors for the "Aquarium" scenario are equated to zero. *p<0.05.

Gracheva D.A.
Analysis of Task Comparability in Digital Environment by the Case of Metacognitive Skills
Psychological Science and Education. 2022. Vol. 27, no. 6

the scenario. It has previously been shown that the multiple-choice item type is less susceptible to fluctuations in difficulty. Larger problems are typical for tasks with an open-ended questions or tasks with a common stimulus material, such as text [3].

However, our results indicate that tasks which include texts as stimulus material can be comparable. In part, this can be explained by the use of the "cloning" approach for test development, which allows us to create the most similar texts in different contexts [1]. Items containing interactive elements are more at risk of incomparability, which could be the reason for the difference in scores by form for the ability to make inferences.

The present research has some limitations. The analysis was conducted on one pair of scenarios to measure one skill, so the results need to be revalidated on other scenarios and skills. In addition, in this work, we analyzed the comparability of forms, based only on the analysis of the data structure and the functioning of indicators.

Further directions for research devoted to the comparability of tasks with context include the use of both quantitative and qualitative methods. Linguistic analysis of task texts and the involvement of experts will allow to gain a deeper understanding of the differences between the scenarios. Another promising direction for future research is to conduct cognitive laboratories and interviews with students to understand

the contribution of context to test results. Further application of quantitative methods may be to assess the effect of the interaction of the context of the scenario with other characteristics of tasks.

Conclusion

Tasks in the digital environment containing interactive elements are a trend in the field of measurements in education. However, it is almost impossible to create comparable tasks "by eye". The variety of situations and greater freedom of action of the test-taker within the digital environment can reduce the comparability of measurements. This is especially important when tasks are used as interchangeable forms, for example, for monitoring studies. The lack of widespread practice of the analysis of forms comparability may create unequal opportunities for test-takers to demonstrate their abilities, and decisions that will be made based on the test results will be invalid.

Our analysis determined that tasks where the test-taker create an object from elements are at a greater risk of incompatibility. Differences in results can be explained by the context of the tasks or the specificity of the task type. The study of the reasons for the results obtained, as well as the revalidation of the conclusions formulated here, can be carried out separately to improve the quality of innovative tasks and explore the possibility of their use for both large-scale and local testing.

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Gracheva D.A.
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Adolescents' and Secondary School Teachers' Perception of Online Learning Under COVID-19 Pandemic

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The article presents the results of the research project "Education under CO-VID-19", implemented by the Center for Interdisciplinary Research on Contemporary Childhood in Moscow State University of Psychology and Education. The research was conducted from October 2020 till January 2021. The main goal of the project was to identify the specific features of adolescents' and secondary school teachers' perception of online learning under the pandemic. 141 adolescents and 91 secondary school teachers from different regions of the Russian Federation participated in the research. According to the data, despite facing certain challenges, the majority of adolescents regard online learning either in neutral, or in positive light. Adolescents with high levels of metacognitive skills were the most efficient in adapting to online learning. In contrast with adolescents, most teachers assess online learning negatively. The authors of the paper consider opposing online and offline education as the least efficient strategy. They stress the need of overcoming the dichotomy and emphasize the role of child-adult interactions that can be organized in face-to-face, distant and hybrid learning formats.

Keywords: pandemic, COVID-19, online learning/teaching, adolescents, teachers, meta-subject competences, motivation, academic performance, child-adult interactions.

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Rubtsova O.V., Poskakalova T.A., Andrianov S.S., Artemenkov S.L.
Adolescents' and Secondary School Teachers' Perception of Online Learning Under COVID-19 Pandemic
Psychological Science and Education. 2022. Vol. 27, no. 6

Особенности восприятия онлайн-обучения в период пандемии COVID-19 подростками и учителями общеобразовательной школы

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В статье представлены результаты исследовательского проекта «Обучение в условиях COVID-19», реализованного на базе Центра междисциплинарных исследований современного детства МГППУ в октябре 2020 — январе 2021 гг. Основная цель проекта — выявление особенностей восприятия онлайн-обучения в период пандемии учащимися подросткового возраста и учителями основной школы. Выборку исследования составили 141 подросток и 91 учитель основной школы из разных регионов Российской Федерации. Согласно полученным данным, большинство подростков воспринимают дистанционный формат нейтрально или даже положительно. При этом наиболее успешно с онлайн-обучением справились подростки с высоким уровнем метапредметных компетенций. В отличие от подростков, у большинства учителей сложилось отрицательное отношение к онлайн-обучению. С точки зрения авторов, в условиях стремительно изменяющейся социальной реальности противопоставление онлайн- и офлайн-форматов обучения представляется неконструктивным. Авторы связывают перспективы повышения эффективности образовательного процесса с преодолением дихотомии очного и онлайн-форматов и смещением акцента на проектирование разных типов детско-взрослых взаимодействий, которые могут быть организованы в очном, дистанционном и смешанном форматах.

Ключевые слова: пандемия COVID-19, онлайн-обучение, дистанционный формат, подростки, учителя, метапредметные компетенции, мотивация, успеваемость, детско-взрослые взаимодействия.

Introduction

The COVID-19 pandemic has unleashed the biggest crisis ever in the education system. According to the UN as of July 2020, the crisis affected 98.6% of students worldwide, including 1.725 billion children and young adults, from preschoolers to university students [21]. In record time, schools and other educational institutions in different countries were forced to look for new ways to continue the learning process, carrying out the so-called "education in emergency" — literally, "education in an emergency situation" [20].

E-learning tools and platforms (platforms with video conferencing function, including Google Hangouts Meet, Zoom, Slack, Cisco, WebEx, cloud resources Elias, Moodle, BigBlueButton, Skype, Microsoft Teams, Google Classroom, Canvas, Blackboard, While) played a key role in ensuring the continuity of the educational process during the pandemic [16]. At the same time, the choice of platforms by specific educational organizations turned out to be spontaneous, since, in fact, there was no time to analyze resources suitable for different subjects and categories of students [14].

Among the main problems that came to the fore in connection with the transition to online learning[1] were technical difficulties, including problems of access to the Internet, technical imperfection of available resources, lack of skills of both teachers and students in using various platforms, as well as lack of places where this could be learned. In addition, the lack of experience of teachers and students, teachers' ignorance of possible strategies for working with different categories of students in the virtual space affected the learning process [17; 22]. Subsequently,

among the problems associated with online learning, such difficulties took shape as a drop in learning motivation, a decrease in academic performance, forced or unauthorized "exclusion" from the educational process), lack of system of acquired knowledge, the problem of adequate assessment of acquired knowledge and competences, loss of contact between students and teachers [24].

It is obvious that the organization of educational activities, implemented mainly in a virtual environment, is a serious challenge for psychological and pedagogical science. This circumstance is due to the fact that technologies act as a new means of mediating activity [8; 9], which qualitatively changes the nature of interactions, including those between all the participants of the educational process (students and the teacher, students themselves). At the same time, following a number of authors [7; 12], we would like to emphasize the need to overcome the dichotomy of "traditional full-time" and online education, since the effectiveness of the educational process is determined not so much by the learning format itself, but by the nature of the organized child-adult interactions [4].

During the pandemic, a lot of research appeared focusing on various aspects of online learning. Among the key topics highlighted both by foreign and domestic authors are:

• psychological well-being of students, negative emotional states (stress, boredom, apathy) under the pandemic [3; 6; 13; 15; 27];

• the level of cognitive load and the phenomenon of the so-called "ZOOM-fatigue" of students in conditions of long-term online interaction [8; 27];

[1] With the onset of the pandemic and the transfer of the educational process to the online space, three main terms were used in the English-language scientific discourse: "online learning", "distant learning" and "hybrid learning". In the Russian-language literature, the concepts of "online learning" and "distant learning" were predominantly used, and many authors operated with them as interchangeable. This article mainly uses the term "online learning".

Rubtsova O.V., Poskakalova T.A., Andrianov S.S., Artemenkov S.L.
Adolescents' and Secondary School Teachers' Perception of Online Learning Under COVID-19 Pandemic
Psychological Science and Education. 2022. Vol. 27, no. 6

• academic and digital risks, risks of differentiation (unequal access to information) under the pandemic [1; 9];

• training in practice-oriented specialties (agricultural, medical, etc.) in the absence of practical training and field research [25; 26].

A separate area of research is related to the study of the effectiveness of online learning among various categories of students (depending on age, presence or absence of disabilities, personal characteristics, etc.) [2; 23].

In September 2020, the research project "Learning under COVID-19" was launched in Moscow State University of Psychology and Education. The project was implemented on the basis of the Center for Interdisciplinary Research on Contemporary Childhood. The main goal of the project was to identify the peculiarities of the perception of online learning during the pandemic by teenage students and secondary school teachers. The results of the project are briefly presented in this article.

Research Design

The first stage of the project "Learning under COVID-19" was held from September to November 2020. The study was conducted in the form of a survey on the Google Forms platform. The questionnaire was posted on the social network "VKontakte" and another social network[2]. The survey involved 141 adolescents aged 13—18 from various regions of Russia, as well as Russian-speaking countries of the Near Abroad.

The following research methods were used:

• Questionnaire "Learning under COVID-19 pandemic" for teenagers (O.V. Rubtsova, T.A. Poskakalova, 2020).

• Inventory "Assessing Metacognitive Awareness" (G. Schraw and R. Dennison,

adaptation of A.V. Karpov and I.M. Skityaeva, 2005) [5].

The "Learning under COVID-19 pandemic" questionnaire was developed specifically for this project. The methodology included 25 questions aimed at diagnosing adolescents' emotional state in the context of the transition to online learning, their perception of educational material, as well as the difficulties that they faced in the learning process.

The "Assessing Metacognitive Awareness" inventory was developed by G. Schraw and R. Dennison and adapted by A.V. Karpov and I.M. Skityaeva. The technique assessed the level of development of metacognitive functions, as well as indicators of activity regulation (declared, procedural and conditional knowledge) and indicators in the field of cognition regulation (planning, information management strategies, control of components, self-correction strategies, analysis of one's own effectiveness) [5].

The second stage of the study took place from October 2020 to January 2021 among secondary school teachers. The study was conducted in the format of a survey on the Google Forms platform. Participants were recruited in the social network "VKontakte", as well as by the "snowball" method among teachers. In total, 91 teachers from different regions of the Russian Federation took part in the survey. The age of survey participants ranged from 21 to 66 years (average age — 43.6 years), work experience — from six months to 46 years (average — 17 years). Subject areas covered such subjects as Mathematics, Foreign languages, Biology, Chemistry, Technology, Physical culture.

The questionnaire "Teaching under COVID-19 pandemic" (developed by O.V. Rubtsova, T.A. Poskakalova, 2020) was used as a research methodology at

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[2] On March 21, 2022, it was recognized as banned on the territory of the Russian Federation.

the second stage of the project. The questionnaire for teachers included 17 questions aimed at diagnosing the difficulties of teaching online, the perception of students' academic success and their emotional state under the pandemic.

Empirical data were processed using descriptive statistics methods.

Perceptions of Online Learning by Adolescent Students

According to the empirical data obtained, in the context of the COVID-19 pandemic, the majority of adolescents developed neutral (44%) or positive (21%) attitude towards online learning. A stable negative attitude was formed in 35% of adolescents. At the same time, the vast majority of respondents noted that the quality of the educational process has deteriorated during the pandemic (Fig. 1).

According to the data received, 77% of teenagers found it difficult to switch to online learning. Thus, more than half of the respondents experienced difficulties in adapting to the new requirements of teachers (54%). Among other problems, adolescents indicated closed space (26%), new requirements of relatives (24%), and the need to master new technologies (Fig. 2).
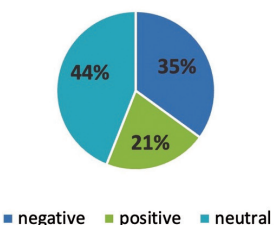
Fig. 1. Adolescents' perception of online learning and the quality of the learning process during the pandemic

Fig. 2. Difficulties that adolescents faced during self-isolation

Rubtsova O.V., Poskakalova T.A., Andrianov S.S., Artemenkov S.L.
Adolescents' and Secondary School Teachers' Perception of Online Learning Under COVID-19 Pandemic
Psychological Science and Education. 2022. Vol. 27, no. 6
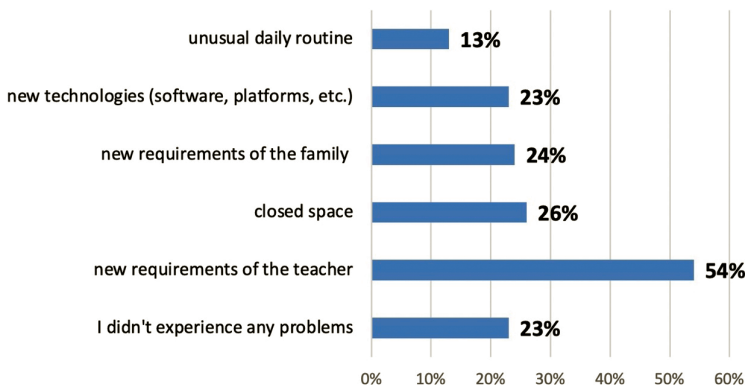
At the same time, according to adolescents' self-report, the greatest difficulties for them were caused by a large amount of homework and self-discipline (Fig. 3).

Among the main fears that teenagers experienced in the online format were the fear of not coping with online learning and worsening the grades (46%), as well as the fear of not understanding what teachers are talking about (46%). Adolescents also noted technical concerns, including fear that the Internet connection will be cut off (44%), or that the necessary materials (homework, test) will fail to upload into the system, etc. (Fig. 4).

What was the hardest thing to get used to while learning online? (multiple choice question)

Category	Percentage
to a computer screen instead of live classroom atmosphere	10%
to the absence of classmates	17%
to home environment instead of school atmosphere	28%
to the absence of a living teacher and their participation	36%
to large amount of homework and self-discipline	53%
all of the mentioned above	7%
I had no difficulties	18%
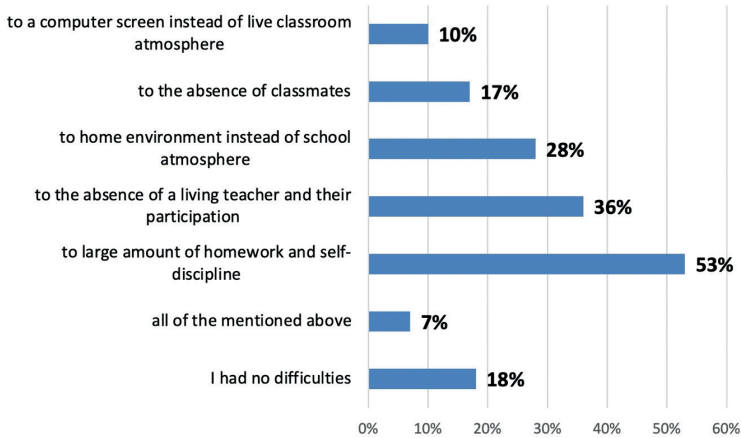
Fig. 3. Difficulties that adolescents faced during self-isolation

What were the most common fears that you experienced while learning online? (multiple choice question)

Category	Percentage
my work (composition, essay, creative task) will be copied	7%
I have no one to ask or consult	13%
my homework or test paper will be lost, I will fail to upload it	42%
I will lose Internet connection at the most unappropriate moment	44%
I will not understand what the teachers are explaining	46%
I will not cope with online learning, my academic performance will decline	46%
I didn't have any fears about my online learning process	16%

Fig. 4. The most common fears that adolescents experienced while learning online

Answering questions about studying various subjects online, 40% of adolescents noted that the most difficult thing for them was to study mathematical disciplines (Fig. 5). At the same time, 22% indicated that it was easier for them to study the subjects of the humanitarian cycle.

Thus, the obtained data indicate that, despite the prevailing neutral attitude towards the online format, most adolescents experienced various difficulties associated with the organization of the educational process and the need to adapt to new requirements. We could assume that it was in this context that adolescents characterized the online format as less effective than offline education.

Features of the Perception of Online Learning by Adolescents with Different Levels of Meta-subject Competencies

To analyze the characteristics of the perception of online learning by adolescents with different levels of meta-subject competences, the survey data using the "Learning under COVID-19 pandemic" questionnaire were compared with the results using the "Assessing Metacognitive Awareness" method.

According to the results of the "Assessing Metacognitive Awareness" test, adolescents (N=141) were divided into three subgroups:

What school subjects were more difficult for you to study online?

- Maths — 40%
- Humanities (History, Literature, etc.) — 8%
- Languages (Russian, ESL) — 6%
- Cteative subjects (Music, Arts, project-based activities, etc.) — 6%
- Natural Sciences — 21%
- all of the subjects — 2%
- none of the subjects — 17%

0% 10% 20% 30% 40% 50%

What school subjects were easier for you to study online?

- Maths — 12%
- Humanities (History, Literature, etc.) — 22%
- Languages (Russian, ESL) — 16%
- Creative subjects (Music, Arts, project-based activities, etc.) — 6%
- Natural Sciences — 9%
- all of the subjects — 3%
- none of the subjects — 30%
- other — 2%

0% 10% 20% 30% 40%

Fig. 5. Adolescents' perception of how different subjects were studied online

Rubtsova O.V., Poskakalova T.A., Andrianov S.S., Artemenkov S.L.
Adolescents' and Secondary School Teachers' Perception of Online Learning Under COVID-19 Pandemic
Psychological Science and Education. 2022. Vol. 27, no. 6

• adolescents with a conditionally low level of development of meta-subject competences — 27 points or less (N=41);

• adolescents with a conditionally average level of development of meta-subject competences — 28—35 points inclusive (N=71);

• adolescents with a conditionally high level of development of meta-subject competences — 36 points or more (N=29).

The selection of three sub-samples made it possible to identify some trends in the perception of online learning experience by adolescents, depending on the level of their meta-subject competences (MC).

According to the data obtained, adolescents with low levels of MC in general had a harder time adjusting to the online format compared to adolescents with higher levels of MC. Adolescents from the subgroup with low levels of MC more often experienced difficulties in mastering new software products, it was more difficult for them to understand the explanations of teachers. In addition, it was much more difficult for such adolescents to organize their own learning process, to force themselves to study without adult control (see Table 1).

Table 1

Difficulties encountered by teenagers in the transition to the online format

Answer options	Adolescents with conditionally low levels of MC (N=41)		Adolescents with a conditionally average levels of MC (N=71)		Adolescents with a conditionally high levels of MC (N=29)		General sample (N=141)	
	Number of people	% of subsample	Number of people	% of subsample	Number of people	% of subsample	Number of people	% of sample
What learning difficulties have you had to face during the period of self-isolation?								
It was difficult for me to master new platforms and software products for education.	9	22%	9	13%	3	10%	21	15%
My relatives interfered with me, the home environment distracted me.	23	56%	21	30%	11	38%	55	39%
I did not understand the explanations of teachers in an online format.	23	56%	30	42%	11	38%	64	45%
It was difficult for me to force myself to study, because the teachers did not control me, I had to force myself to study.	30	73%	25	35%	11	38%	66	47%
I was bored with studying online, I was distracted by parallel activities in the Internet (social networks, entertainment resources, games, etc.).	28	68%	45	63%	21	72%	94	67%
It was hard for me to sit at the computer for a long time.	9	22%	22	31%	10	35%	41	29%
While online during self-isolation, you consumed more:								
Entertainment content	29	71%	53	75%	17	59%	99	70%
Game content	21	51%	31	44%	10	35%	62	43%

Answer options	Adolescents with conditionally low levels of MC (N=41)		Adolescents with a conditionally average levels of MC (N=71)		Adolescents with a conditionally high levels of MC (N=29)		General sample (N=141)	
	Number of people	% of subsample	Number of people	% of subsample	Number of people	% of subsample	Number of people	% of sample
Content related to communication and transmission of information	23	56%	36	51%	18	62%	77	55%
Education related content	**12**	**29%**	**36**	**51%**	**20**	**69%**	68	48%
During the period of online learning, did you feel:								
More anxious	23	56%	33	47%	14	48%	70	50%
More nervous	21	51%	34	48%	11	38%	66	47%
More free	15	36%	27	38%	13	45%	55	39%
More independent	7	17%	14	20%	9	31%	30	21%
More rested	12	29%	34	48%	12	41%	58	41%
My feelings haven't changed	2	5%	1	1%	2	7%	5	4%

Interestingly, in a self-reported study, teens with low MC levels were less tired from spending too much time in front of the computer. Perhaps this is due to the fact that adolescents in this subsample consumed significantly less content related to learning (29%) compared to adolescents from the group with average and high levels of MC (51% and 69%, respectively).

It should also be noted that in the conditions of self-isolation, adolescents with high levels of MC generally felt less nervous and anxious, as well as more free, independent and rested, which allowed them to better cope with the educational process (Table 1). These data correlate with the results of foreign studies confirming the relationship between the level of metacognitive awareness and emotional regulation, including the ability to control negative emotions, "brighten" them [18; 19].

The data on the dynamics of motivation of adolescents with different levels of MC during the period of self-isolation are also of interest. Most of the respondents from the general sample noted that their performance did not change when they switched to online learning (Fig. 6). At the same time, 35% of adolescents with high and 40% of adolescents with average levels of MC expressed the opinion that their academic performance has improved under the lockdown.

When asked about the preferred format of education in the future, the majority of adolescents (47% of the entire sample) indicated the offline format (Fig. 7). At the same time, 53% of teenagers supported the idea of blended or online learning (32% and 21%, respectively). Interestingly, the mixed format was the most popular in the subsample of adolescents with high levels of MC (38%), while the remote format was preferable in the subsample of adolescents with average levels of MC (24%). The least popular mixed and online formats were in the subgroup of teenagers with low levels of MC (34% and 17%, respectively).

In general, the obtained data indicate that adolescents with high levels of meta-subject competences coped better with the transition to online learning compared to

Rubtsova O.V., Poskakalova T.A., Andrianov S.S., Artemenkov S.L.
Adolescents' and Secondary School Teachers' Perception of Online Learning Under COVID-19 Pandemic
Psychological Science and Education. 2022. Vol. 27, no. 6

During the pandemic, your academic performance:
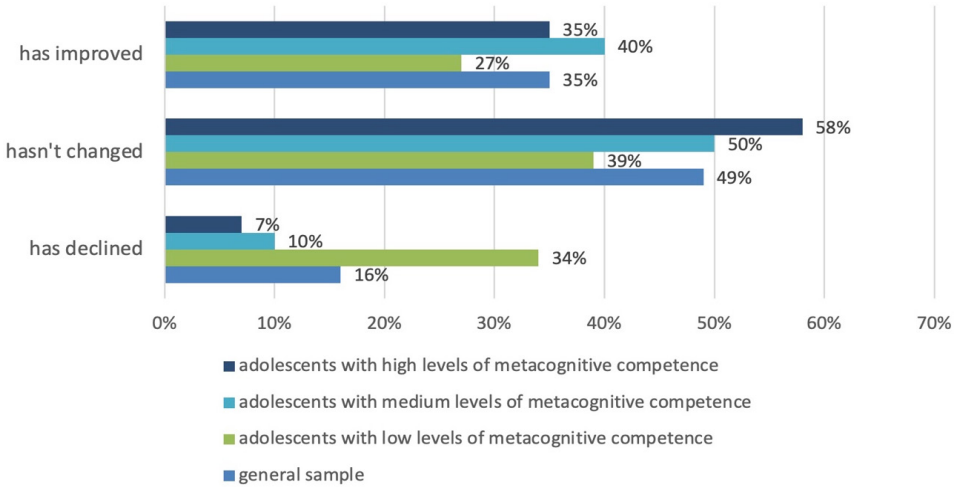
Fig. 6. Academic performance of adolescents with different levels of metacognitive competence

Learning format preferences among adolescents:
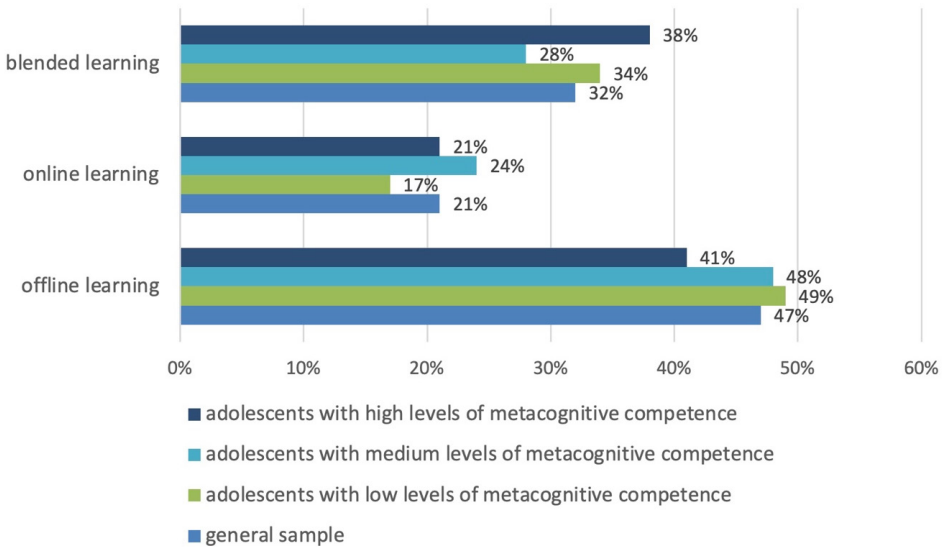
Fig. 7. Learning format preferences of adolescents with different levels of metacognitive competences

adolescents with low levels of these competences.

In the final part of the survey, teenagers were asked to think about possible ways to

improve learning in online format. Among the main wishes of teenagers are the following:

• improvement of educational platforms and software, making them easy to use and uniform;

• streamlining the presentation of information — reducing the volume of material for self-study, balance between theoretical and practical tasks, timely distribution of tasks, taking into account the time for their implementation;

• providing communication with the teacher, opportunities for counseling on assignments, as well as obtaining additional feedback and clarifications;

• more active involvement of students in dialogue, rejection of exclusively lecture formats;

• reduction of technical failures, Internet outages.

Perceptions of Online Learning by Secondary School Teachers

According to the data obtained, the vast majority of teachers perceive the pandemic and the transition to online learning as a stressful situation (85%). At the same time, 52% noted that the transition to online learning had a negative impact on their professional motivation, while 48% did not see such a connection. More than 69% of teachers expressed concern that in the next academic year, education could completely or partially switch to distance learning, noting that they would prefer to avoid such a scenario.

Interestingly, according to the survey, adolescent students and teachers perceive the impact of the online format on the learning motivation of adolescents differently. Thus, among teachers, 89% are convinced that the new format contributed to a sharp decrease in the educational motivation of adolescents, but among the students themselves, only 45% of the respondents reported such an effect (Fig. 8).

Thus, the vast majority of teachers have a negative attitude towards online learning and are afraid of the possibility of switching to a distance format. At the same time, teachers tend to exaggerate the difficulties and problems that adolescents face in online learning.

Among the wishes for the online learning format, teachers noted the following:

• improvement of technical equipment (availability of computers for all students, refusal to study on smartphones, etc.);

• finalization of online learning platforms in order to bring them as close as possible to the format of face-to-face classes;

• consistency in the application of selected programs;
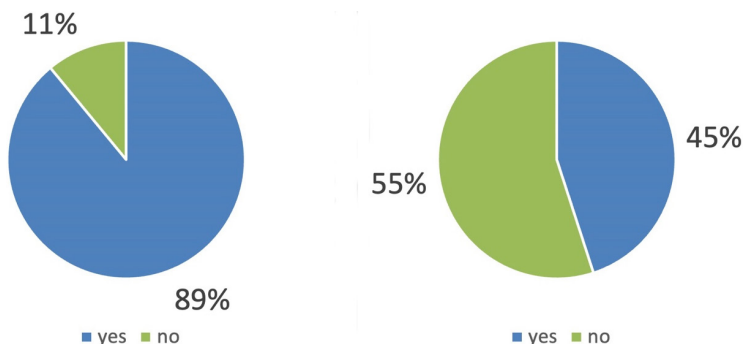
Fig. 8. The number of teachers (on the left) and the number of students (on the right), considering that online learning has negatively affected students' learning motivation

Rubtsova O.V., Poskakalova T.A., Andrianov S.S., Artemenkov S.L.
Adolescents' and Secondary School Teachers' Perception of Online Learning Under COVID-19 Pandemic
Psychological Science and Education. 2022. Vol. 27, no. 6

• organization of online courses, seminars, workshops for teachers on mastering various forms of remote work;

• adapting an individual approach to children with disabilities;

• reduction of bureaucratic reporting associated with the new format;

• automatization of the process of checking works and intermediate certification;

• compliance with digital etiquette (for example, no calls and messages 24/7 from students, parents and administration).

Discussion and Conclusions

The conducted research shows that, despite the various difficulties that adolescents faced when switching to online learning, most of them perceive the distance format neutrally or even positively. Unlike teenagers, most teachers have developed a negative attitude towards online learning. Moreover, according to the data obtained, teachers tend to exaggerate the negative effects of the distance format, including its negative impact on the level of adolescents' learning motivation.

An important result of the study was the identification of the relationship between the level of development of adolescents' meta-subject competences and the effectiveness of their learning in an online format. According to the data obtained, adolescents with high levels of meta-subject competences generally coped better with online learning: they experienced less difficulties associated with adapting to a new format, and, surprisingly, many of them noted an improvement in academic performance under the pandemic. In addition, adolescents with high levels of meta-subject competences have developed a positive attitude towards online learning, and many of them support the idea of learning in blended or distance format in the future.

In general, both among teachers and teenagers, the prevailing opinion is that the online format is less effective than face-to-face education. The analysis of the empirical data suggests that the low effectiveness of the online format during the pandemic was due to several factors — primarily, the spontaneous nature of the transition to online learning and the unpreparedness of both adolescents and teachers to work in new conditions. The need to master new technologies in an extremely short time and the lack of opportunities to acquire the necessary skills did not always allow teachers to effectively organize the educational process. This was manifested primarily in an increase in the volume of independent work of students. According to the teenagers themselves, it was a large amount of independent work, as well as the new requirements of teachers, that were the most difficult for them to adapt to during self-isolation.

It is necessary to emphasize the differences in the wishes of adolescents and teachers regarding learning in an online format. The wishes of teachers relate, first of all, to the improvement of the technical component (finalization of educational platforms, improvement of technical equipment, etc.). Adolescents also note the need for technical improvement of the educational process in an online format, however, in addition, they pay attention to the importance of proper organization of interaction between students and teachers, including the need to maintain a dialogue and ensure interactive cooperation in online learning.

From our point of view, in the context of a rapidly changing social reality, the opposition of online and offline learning formats seems to be the least constructive. The authors associate the prospects for improving the efficiency of the educational process with the design of various types of child-adult interactions, which can be organized not only in person, but also in remote and mixed format.

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Psychological Science and Education. 2022. Vol. 27, no. 6

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Lessons from the Pandemic: Analyzing the Experience of Distant Learning in Secondary Schools

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As a result of the COVID-19 pandemic, educational institutions switched to distance learning in March 2020. The study focuses on how the sudden transition affected the level of teachers' anxiety and professional burnout. A total of 282 teachers from general education schools participated in the study. The results showed that the teachers successfully coped with the transition: the level of anxiety and burnout was similar to the results of previous studies of teachers before the pandemic. A significant role in the adaptation of teachers to the urgent transition to online education was played by their attitudes. In particular, those who adapted to the change and were able to get used to the distance format of work showed the lowest levels of anxiety compared with other groups who resisted the change and experienced difficulties. An important condition for successful distance learning, according to teachers, is the detailed regulation of infrastructural aspects of the educational process by the administration. The article discusses the next steps to improve the quality of distance learning based on experience.

Keywords: activity-related experience, quality of motivation, self-determination theory, intrinsic motivation, extrinsic motivation, academic motivation.

Alenina E.A., Bartseva K.V., Lee O.V., Zaleshin M.S., Likhanov M.V., Kovas Y.V. Lessons from the Pandemic:
Analyzing the Experience of Distant Learning in Secondary Schools
Psychological Science and Education. 2022. Vol. 27, no. 6

Уроки пандемии: анализ опыта перехода на онлайн-преподавание в средней школе

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Представлены материалы работы, посвященной тому, как внезапный переход образовательных учреждений на дистанционное обучение, вызванный COVID-19, отразился на уровне тревожности и профессионального выгорания педагогов. В исследовании приняли участие 282 педагога общеобразовательных школ. Полученные с помощью опроса результаты показали, что педагоги успешно справились с произошедшим переходом: уровень тревожности и выгорания был схожим с результатами предыдущих исследований педагогов, проводимых до пандемии. По мнению авторов, значимую роль в адаптации педагогов в этой ситуации сыграло их отношение к экстренному переходу на онлайн-формат. В частности, те, кто адаптировались к изменениям и смогли привыкнуть к дистанци-

85

онному формату работы, продемонстрировали самый низкий уровень
тревожности по сравнению с другими группами, которые сопротивлялись
переменам и испытывали трудности. Установлено, что, по мнению педагогов, важным условием успешного дистанционного обучения является
детальная регуляция инфраструктурных аспектов образовательного процесса администрацией. Обсуждаются дальнейшие шаги к повышению
качества дистанционного обучения на основе полученного в проведенном исследовании опыта.

Ключевые слова: дистанционное обучение, преподавание, тревожность, эмоциональное выгорание, пандемия COVID-19.

Introduction

In March 2020, educational institutions in many countries, including Russia, switched over to remote work due to the COVID-19 pandemic. Unlike the global epidemics of past centuries, this epidemic happened in the era of onrush of technology, which made it possible to keep the educational process going even during the period of overall isolation and quarantines. By the time of the pandemic, new technologies had already begun to be integrated everywhere into the education system. By 2020, many teachers have already completed refresher courses in PC literacy: according to the TALIS-2018 study, 95% of young teachers who received education in the last five years and 70% of teachers with longer experience shared that the use of digital technologies was included in their training program (for example, federal project — "HR for the Digital Economy"[1]); educational institutions are implementing the programs to equip schools with mod-

ern equipment for educational events (national project — "Education"); electronic journals and other electronic resources are incorporated [9].

Despite this, forced and rapid change of the form from traditional to remote at the beginning of the pandemic led to load increase of teachers. The use of digital technologies has led to a range of challenges for teachers, including the installation of new software; connection of peripheral devices, use of various digital platforms to conduct classes, etc. [27].

According to some studies, the situation of urgent switch over to a remote form was associated with a deterioration in mental state of teachers [10]. For example, a study by Sokal, Trudel and Babb (2020) showed that, on average, teachers demonstrated increased emotional exhaustion and anxiety in the first three months of the pandemic [28]. Such feelings, accompanied by self-doubt and anxiety about possible failures, are defined as anxiety in the scientific litera-

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[1] https://digital.gov.ru/ru/activity/directions/866/#section-faq

Alenina E.A., Bartseva K.V., Lee O.V., Zaleshin M.S., Likhanov M.V., Kovas Y.V. Lessons from the Pandemic:
Analyzing the Experience of Distant Learning in Secondary Schools
Psychological Science and Education. 2022. Vol. 27, no. 6

ture [29]. Continuous anxiety may trig not only anxiety, but also professional burnout, which is characterized by depersonalization (negative attitude towards colleagues and students), reduction of personal achievements (negative professional self-perception) and emotional exhaustion (feeling of persistent tiredness and depletion of emotional resources) [2].

Another study conducted in April 2020 was focused on mental condition of 2,250 participants from the UK during the e-learning period [14]. The researchers identified three groups that differ in their attitudes towards changes associated with the pandemic: "accepting change" (48% of participants), "experiencing difficulties" (43% of participants) and "resisting to change" (9% of participants). The "accepting change" group demonstrated the lowest levels of anxiety and depression. The participants in this group were the least worried that they might lose their jobs and experience financial difficulties, and most easily adjusted to the online form. The "experiencing difficulties" group demonstrated the highest level of anxiety, but in all other indicators: adjustment to the online form, fear of losing a job and financial difficulties — was between the other two groups. The values of anxiety in the "resisting to change" group turned out to be average, however, the participants in this group were the worst adapting to the online form and were more confident than the others that they would lose their jobs and experience financial difficulties.

Not all studies have pointed to the negative effects of the transition. For example, a study by Talidong and Toquero (2020) demonstrated that the teachers used e-learning opportunities had no feeling of increased anxiety. The study showed that teachers began to communicate more actively with the professional community and share experience with colleagues [31]. Moreover, the studies have shown that various aspects of e-learning can have both positive and negative effects, depending on the support provided to the teachers and other conditions.

Thus far, several works have been published about the effect of digitalization on the education system in the Russian Federation (see, for example, [1; 5; 6]).

In a recent qualitative study involving Russian teachers, it was shown that support from the school administration, a well-balanced workload, match between work and private life are the core factors in stress control during e-learning [4]. However, such jobs are rare and rarely consider the transition to e-form in a comprehensive manner.

The study was focused on establishing the characteristics of mental condition of teachers in the Russian Federation during the transition to e-learning during the COVID-19 pandemic. The following tasks are solved in the work:

— analyze the level of anxiety and burnout of secondary school teachers during the transition to e-learning form;

— select groups based on the experience of transition of teachers to e-learning and study the level of burnout and anxiety in these groups;

— study teachers' assessment of the infrastructure available to them, resource provision and administrative support after the transition;

— analyze the possibilities of using the acquired experience of teachers to improve education in the future.

Methods of Study, Participants and Procedure

The study involved 282 teachers from Russia aged 25—55 years (262 women, aged 46—55 years; 20 men, aged 36—45 years), of which 195 participants were teachers of general education schools in the town of Tobolsk (185 women aged 46—55; 10 men aged 36—45) and

Аленина Е.А., Барцева К.В., Ли О.В., Залешин М.С., Лиханов М.В., Ковас Ю.В. Уроки пандемии:
анализ опыта перехода на онлайн-преподавание в средней школе
Психологическая наука и образование. 2022. Т. 27. № 6

87 participants of the Next-Pedagog[2] program (77 women and 10 men aged 36—45) from the towns of Tobolsk, Svobodny and Blagoveshchensk. The two groups of participants did not differ significantly in age.

The study was approved by the ethical committee of Tomsk State University and was conducted online in April—May 2020. All participants of the study were engaged by the organizers of the Next-Pedagog program. The participants were sent the links to complete the inquiry, which they could fill out at any time. Participation in the study was voluntary and participants were told that they could refuse to participate in it at any time.

The data were analyzed using R-Studio 3.0.1 software. The descriptive statistics was carried out by evaluating the distribution of data in the Gaussian distribution; in addition, Pearson's correlation test, Fisher's one-way analysis of variance and Ward's cluster analysis were used in the work.

Tools

The online inquiry included the generalized anxiety disorder questionnaire [30], professional burnout questionnaire [2; 23]; questionnaire about the experience of transition to e-learning, developed as part of this study; and demographic characteristics (gender and age). The choice of instruments is because these methods have demonstrated high internal consistency and convergent validity. See more detailed description of the methods and their psychometric characteristics in Annex 1.1

Generalized Anxiety Disorder Questionnaire

The questionnaire is designed to assess the symptoms of generalized anxiety disorder. The participants are asked to give score to 7 statements about how often over the past 2 weeks they were disturbed by such feelings as anxiety and fear, how often they fail to relax and stop worrying.

Professional Burnout Level Assessment Questionnaire

The burnout questionnaire is an adaptation of the questionnaire based on the model of K. Maslach and S. Jackson into Russian [2; 23]. The questionnaire contains 22 statements, which are divided into three subscales: emotional exhaustion, depersonalization and personal achievement. The participants are asked to give points to the statements on a 7-point scale (from 0 — "never" to 6 — "always"). The points scored for each of the subscales are interpreted based on the norms and threshold values to determine the level of professional burnout. The questionnaire was proposed to the participants at the very end of the study and was filled out voluntary. See the detailed research methods in Annex 1.1.

Questionnaire of Experience of Transition to E-learning

The questions were phrased by a review group of researchers and teachers from several schools and universities in Russia. The questionnaire went through several stages of piloting. The final list of questions included 5 categories: preparation for classes, hardware, characteristics of the e-learning form, support from the institution, positive / negative aspects, attitude to change. Examples of questions for each category and their total number are available in Annex 1.2.

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[2] Next-Pedagog program – e-learning qualification upgrade program of the SIBUR holding developed by Tobolsk pedagogical institute named after D.I. Mendeleev.

Alenina E.A., Bartseva K.V., Lee O.V., Zaleshin M.S., Likhanov M.V., Kovas Y.V. Lessons from the Pandemic:
Analyzing the Experience of Distant Learning in Secondary Schools
Psychological Science and Education. 2022. Vol. 27, no. 6

Data Analysis and Study Results
Descriptive Statistics and Correlations

The results of descriptive statistics showed that the data are normally distributed (kurtosis and skewness do not exceed +/-2 values) [19]. Descriptive statistics: 1) Generalized Anxiety Disorder Questionnaire: number of responses 282; mean=5.34; standard deviation=4.73; 2) Integral indicators of the professional burnout questionnaire: the number of answers is 155; mean=5.74; standard deviation=2.31. The Pearson correlation between generalized anxiety disorder and burnout was 0.45 (p<0.05).

Cluster Analysis

As a result of hierarchical cluster analysis [32] of three questions about the attitude of teachers to the transition to e-learning from using the Ward method (see Annex 1.2, paragraph 6), three groups of teachers were involuntary identified (following the above British study [14], only those participants who completed both the anxiety disorder questionnaire and the burnout questionnaire (total number of participants 155) were grouped. These groups were also named after this study (see Fig. 1).

The results are consistent with those shared by the British researchers, where the majority of the "experiencing difficulties" group demonstrated that they were experiencing anxiety (93%), and "accepting change" demonstrated the lowest percentage of participants experiencing anxiety (8%). However, unlike the previous study, where only gr. 2 "Resistance to change" demonstrated a low level of adaptation to the remote form, in our study and gr. 2, and gr. 3 demonstrated simi-

	Участники	Тревожность	Выгорание
Группа 1 «Испытывают трудности»	46	9.78(4.92)	8.83(2.07)
Группа 2 «Сопротивляются переменам»	54	4.24(3.38)	5.38(0.99)
Группа 3 «Принимают перемены»	55	2.70(2.73)	3.83(0.37)

Участники	Participants
Тревожность	Anxiety
Выгорание	Burnout
Группа 1 «Испытывают трудности»	Group 1 "Experiencing difficulties"
Группа 2 «Сопротивляются переменам»	Group 2 "Resistance to changes"
Группа 3 «Принимают перемены»	Group 3 "Accepting changes"

Fig. 1. Descriptive statistics for three groups of teachers: the graph shows the number of participants — participants; mean values (standard deviations) — anxiety and burnout; the number of participants who completed the burnout and anxiety questionnaire was 155 people

Аленина Е.А., Барцева К.В., Ли О.В., Залешин М.С., Лиханов М.В., Ковас Ю.В. Уроки пандемии:
анализ опыта перехода на онлайн-преподавание в средней школе
Психологическая наука и образование. 2022. Т. 27. № 6

lar results. In addition, gr. 1 "Experiencing difficulties" demonstrated the highest desire to change profession (see Fig. 2). See analysis details in the Annex 2.

The average values for anxiety are not high in comparison with previous studies (from 15 points). The average values according to the professional burnout questionnaire are not high for groups 2 and 3, but exceed the high burnout threshold for gr. 1 (from 7 points), demonstrated in previous studies [2]. A detailed comparison of our results with those of previous studies is demonstrated in Annex 3.

Frequency Analysis of Answers to Questions Related to the Transition to E-learning Form

As part of the frequency analysis, the experience of teachers in connection with the transition to online education was analyzed. Because of the analysis, it was observed that "adapting the materials for lessons" (70%) and "checking homework" (79%) began to consume more time. More than 50% of participants noted that they do not need additional equipment for online lessons. Continuing the phrase "From online education ...", the majority of teachers (65%) chose the option "there is a benefit." Most teachers think that school administration should regulate the platform used for online classes, working hours, attendance, adapt the schedule and workload norms. The question about the disadvantages of distance education, the following answers were most frequent: "*hardware problems*" (51%) — here teachers indicated problems associated with the hardware of students
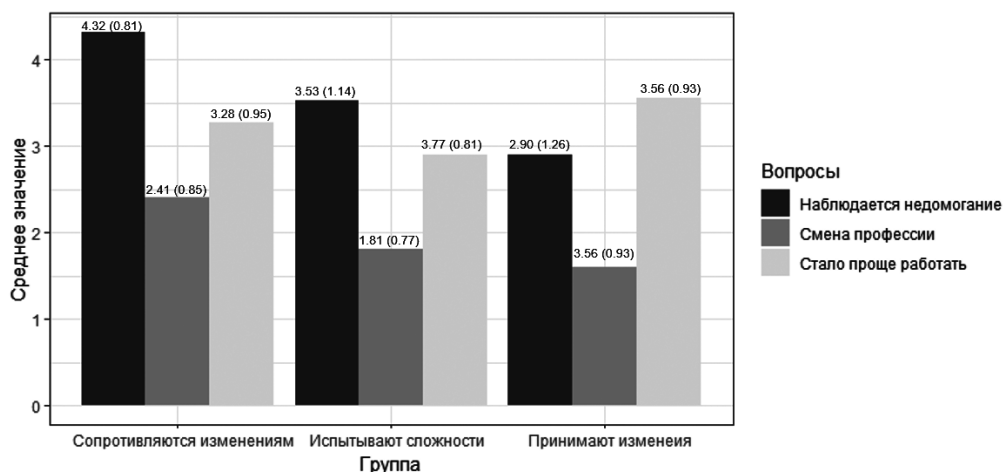
Среднее значение	Mean value
Сопротивление изменениям	Resistance to changes
Испытывают сложности	Experiencing difficulties
Принимают изменения	Accepting changes
Вопросы	Questions
Наблюдается недомогание	Feeling unwell
Смена профессии	Change of profession
Стало проще работать	It became easier to work

Fig. 2. Answers to three questions for the cluster analysis (means and standard deviations are indicated);
number of participants — 155

Alenina E.A., Bartseva K.V., Lee O.V., Zaleshin M.S., Likhanov M.V., Kovas Y.V. Lessons from the Pandemic:
Analyzing the Experience of Distant Learning in Secondary Schools
Psychological Science and Education. 2022. Vol. 27, no. 6

and poor quality of the Internet connection; and "lack of live communication" (39%). The most common responses from the participants to the question about the benefits of e-learning were "*independence of students*" (22%), "*more flexible hours*" (19%) and "*comfort*" (17%). 21% of teachers did not choose any option. Figures and descriptions are disclosed in Annex 4.

Discussion of Results

In this study, we studied how the changes caused by the COVID-19 pandemic affected the psycho-emotional state of teachers of the educational institutions. The results of the study demonstrated that the average values of anxiety are comparable to the results of studies conducted before the pandemic. The results of this study on burnout also correlate with previous studies.

The results of the cluster analysis identified three groups of teachers: those who are resisting to changes, those who are experiencing difficulties, and those who are accepting changes. As in the study by Duffy and Allington (2020), these three groups differed significantly in anxiety and burnout levels [14]. The "experiencing difficulties" group demonstrated the highest level of anxiety and burnout. In addition, the teachers in this group more often than others felt some discomfort since they started working from home and demonstrated the highest desire to change the job. These results confirm that about one third of teachers experience various emotional problems when they switch over to a remote form. These results correlate with previous studies [16].

During the transition to online education, the teachers faced additional difficulties. According to the study, the main difficulty was hardware related problems and increased workload. Also in our study, teachers noted the lack of support from the administration of the educational institu-

tion is one of the core problems. Teachers pointed out the need to comply with the workload standards; control of communication with students and their parents, including the observance of working hours for students and parents to communicate with the teacher; and the existence of a school-wide policy for the lessons on online learning platforms.

Despite all the identified difficulties, the teachers demonstrated good adaptation to working in online form, which is matching the results of previous studies, for example, those teachers who did not have computer skills before the pandemic were able to quickly adapt to new conditions and were ready to continue using online-resources in their work in the future [33]. In our study, the teachers also noted a number of positive aspects of the transition to e-learning. For example, they shared that the students who do not have the opportunity to attend classes personally are able to connect remotely. The teachers also observed that communication with the students through digital technologies opens up new opportunities for them, including interactivity, individual approach, availability of education and a variety of remote work methods. For example, in addition to synchronous classes (for example, group classes), asynchronous e-learning is especially effective — a form, when the participants independently choose comfortable time for classes [17]. The use of online interactive whiteboards in class (such as Smart Boards) allows you to visualize the material, post comments, ask questions and etc. [11; 20]. Online education also gives ample opportunities for different lesson forms, including a flipped classroom technology (presentation of material by students) or grouping students (student-student interaction) [18]. The use of such techniques is an effective way to improve the quality of e-learning and excellent opportunity for professional development of teachers [15].

Аленина Е.А., Барцева К.В., Ли О.В., Залешин М.С., Лиханов М.В., Ковас Ю.В. Уроки пандемии:
анализ опыта перехода на онлайн-преподавание в средней школе
Психологическая наука и образование. 2022. Т. 27. № 6

Conclusion

This study has a number of limitations. The small sample range does not allow us to draw more detailed conclusions about the connection between the transition to e-learning depending on stage of education. The burnout questionnaire was offered to participants at the very end of the study, so the number of participants who completed this instrument was lower than in other parts of the study. The limitations of the study do not allow making definite conclusions about the nature of the connection between the transition to online form and the stages of education. However, the results suggest that, in general, the teachers who participated in the study managed to successfully cope with the transition to online form.

Annex to "the Pandemic Lessons Learned: Analysis of the Experience of Transition to E-Teaching in a Secondary School

Annex. 1.1 Research methods description.

Generalized Anxiety Disorder Questionnaire

The response scale ranges from "never" (0 points) to "almost every day" (3 points). The questionnaire has high internal consistency (Cronbach's Alpha = 0.92), test reliability (ICC = 0.83) and convergent validity (high correlation with the Beck Anxiety Inventory, $r = 0.72$) [22]. The questionnaire was adapted by the authors of the study for use in the Russian-speaking population and demonstrated good reliability (Cronbach's alpha = 0.92). The result is calculated by the sum of all answers (from 0 to 21). To determine the general level of generalized anxiety disorder, the following norms are proposed: 5 — weak anxiety; 10 — moderate anxiety; 15 — high anxiety [30].

Professional Burnout Level Assessment Questionnaire

Cronbach's Alpha coefficient for "burnout" — 0.74, "depersonalization" — 0.72, "personal achievement" — 0.50. Scale scores varies from 0 to 54 for burnout (9 items); 0 to 30 points for depersonalization (5 statements); and from 0 to 48 points for personal achievements (8 statements). The scores scored for each of the subscales are interpreted based on norms and threshold values to determine the level of professional burnout (see Table 1). In accordance with the general integral indicator, the degree of professional burnout is assessed as low (3—4 points, where 1 point is assigned for low performance in each of the subscales), medium (5—6 points), high (7—9 points) and extremely high (10 points or more).

Table 1

Correspondence of integral indicators and subscale values [2]

Subscale	Groups	Low level	Average level	High level	Very high
Integral assessment indicators		**3—4**	**5—6**	**7—9**	**10 and more**
Emotional burnout	Men	5—15	16—24	25—34	34 and more
	Women	6—16	17—25	26—34	34 and more
Depersonalization/ Cynicism	Men	2—4	5—12	13—15	15 and more
	Women	1—4	5—10	11—13	14 and more
Professional Success	Men	37—48	36—28	27—23	22 and less
	Women	36—48	35—28	27—22	21 and less

Alenina E.A., Bartseva K.V., Lee O.V., Zaleshin M.S., Likhanov M.V., Kovas Y.V. Lessons from the Pandemic:
Analyzing the Experience of Distant Learning in Secondary Schools
Psychological Science and Education. 2022. Vol. 27, no. 6

Annex 1.2 Description of research approach.

Questionnaire of experience of transition to e-learning

Category	Question example	Variants of reply
1. Preparing materials for classes.	What type of work started to consume more time?	*Participants could choose several options from the proposed* 1. Material preparation 2. Methodical work 3. Explanation of new material 4. Adaptation of materials etc. (see Fig. 2 for details)
2. Hardware.	Do I need additional hardware in order to fully engage in e-learning?	Yes No Other (please write your variant)
3. Brief description of the e-learning.	From e-learning	1. There is benefit 2. There is harm 3. No benefit at all (see Fig. 5 for details)
4. Support from the educational institution.	What should the school regulate?	*Participants could choose several options from the proposed* Timetable Selection platform Attendance (see Fig. 6 for details)
5. Positive and negative aspects of e-learning.	What are three advantages of e-learning / What are three main problems of e-learning	Open form, participants may list their options or prefer not to answer (answers are shown in Figures 7—8)
6. Attitude to changes.	1. Since we switched to e-learning, I have been feeling unwell (back pain, headache, eyes, etc.) as I spend much time at PC.	1. Completely disagree 2. Disagree (disagree) 3. Difficult to answer 4. Agree 5. Completely agree (agree)
	2. I am seriously considering changing my career if e-learning continues for next academic year.	
	3. After several weeks of e-training, it became easier for me to work in this form.	

Annex 2. Cluster analysis.

Distribution of data in groups: anxiety $_{group1/group\ 2/group\ 3}$: kurtosis = -0.81/-0.38/0.70; asymmetry = 0.43/0.53/1.16; burnout$_{group1/group\ 2/group\ 3}$: kurtosis = -0.40/1.93/-0.52; asymmetry = 0.52/0.90/0.62.

The data in each group were distributed regularly and homogeneously (Levin's test p <0.05).

Anxiety:

One-way analysis of variance demonstrated significant differences between the selected groups in at the anxiety level ($F(2,155)=48.88$; $p<0.001$; $\eta2=0.39$).

Also, the results of post-hoc analysis (Tukey's test) demonstrated significant differences between group 1 and group 2, $t(155) = -7.07$, $p< 0.001$, and between group 1 and group 3, $t(155) = -5.52$, $p<0.001$. Groups 2 and 3 did not differ ($p = 0.07$).

Burnout:

Analysis of variance showed significant differences at the professional burnout level between groups ($F(2.155) = 142.7$; $p<.001$; $\eta2 = 0.65$). The results of post-hoc analysis (Tukey's test) demon-

Аленина Е.А., Барцева К.В., Ли О.В., Залешин М.С., Лиханов М.В., Ковас Ю.В. Уроки пандемии:
анализ опыта перехода на онлайн-преподавание в средней школе
Психологическая наука и образование. 2022. Т. 27. № 6

strated significant differences between all groups: groups 1 and 2 -t (155) = -2.30, p<0.001; groups 1 and 3 -t(155) = -3.94, p<0.001; groups 2 and 3 —t(155) = -0.92, p<0.001).

However, unlike the previous study, where only group 2 "Resistant to change" demonstrated a low level of adaptation to the online form, in our study and Group 2 (F(2,155)= 20.55, p<0.001, $\eta2$ = 0.21; between groups 1 and 2 (t(155) = -0.78, p<0.001, 2 and 3 (t(155) = -0.62, p<.001), 1 and 3 (t(155) = -1.41, p<0.001)), and group 3 demonstrated similar results (F(2.155)=3.73, p<0.05, $\eta2$=0.04), only differences between groups 1 and 2 were significant (t(155)=0.49, p<0.05)). In addition, Group 1 "Experiencing difficulties" demonstrated the highest desire to change of profession ((F(2,155)=13.71, p<0.001, $\eta2$ = 0.15), between groups 1 and 2 (t(155)=-0.59, p<0.001), groups 1 and 3 (t(155)=-0.81, p<.001), while the differences between groups 2 and 3 are not significant (t(155)=-0.21, p=0.33)).

Annex 3. Comparison of methods.

Comparison of mean values of anxiety:

For example, in two studies in 2008 and 2021 using the same anxiety measurement method — GAD7, the following results were demonstrated: mean = 2.95 (standard deviation = 3.41) [13]; and mean value = 8.0 (standard deviation = 5,5) [25]. In this study, mean anxiety score was 5.34 (standard deviation = 4.52), within the range of past study values. These results are also consistent with a 2020 study that demonstrated that the rates of anxiety and depression among teachers were not exaggerated during the pandemic [14].

Comparison of average value of professional burnout:

In our study, the integral burnout score was 5.74, which almost coincides with the results of the meta-analysis by Rothstein and colleagues (2019), where the integral burnout score was 5 (depersonalization = 2, emotional exhaustion = 2, personal achievement = 1) [26]. This level of burnout is within the normal range and indicates that the pandemic did not cause elevated burnout for most teachers. Perhaps the degree of burnout depends on the stage of education. For example, one study of a Russian sample of teachers demonstrated that the level of professional burnout of elementary school teachers was lower than that of secondary school teachers (U = 429.5; p < 0.05), possibly due to more complicated organizational process of transition to e-learning mode [8]. This study involved teachers teaching at both primary and secondary schools. However, the sample size does not allow us to determine the existence of the effect of the level of education on the level of burnout.

In this study, the Pearson correlation coefficient between the level of anxiety and burnout of teachers was 0.45, which is matching to previous studies. For example, in two studies on samples of Russian teachers, the correlations between the level of anxiety and various aspects of burnout ranged from 0.30 to 0.72 [3, 7]. According to a meta-analysis and review summarizing the results of 34 studies with more than 40 thousand participants, there is a stable relationship between burnout and anxiety (r=0.46) [21]. According to the authors of the meta-analysis, burnout and anxiety are different constructs with some common characteristics. It is likely that they develop in parallel and are mutually interrelated. Longitudinal studies are required to establish their baseline mechanisms. The studies suggest a range of reasons for the prevalence of teacher burnout, including negative work environments, overload and lack of support.

Annex 4. Replies to frequency analysis.

Figures 3—8 analyze the experience of teachers associated with the transition to e-teaching. The number of participants who answered the questions was 282 people.

Alenina E.A., Bartseva K.V., Lee O.V., Zaleshin M.S., Likhanov M.V., Kovas Y.V. Lessons from the Pandemic:
Analyzing the Experience of Distant Learning in Secondary Schools
Psychological Science and Education. 2022. Vol. 27, no. 6
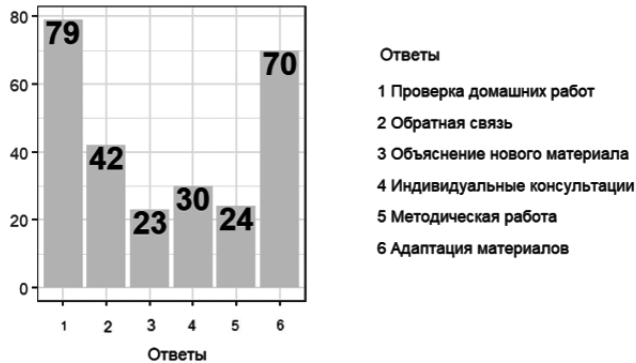
Fig. 3. What kind of work has become more time consuming?

Ответы	Replies
1 Проверка домашних работ	1 Homework check up
2 Обратная связь	2 Feedback
3 Объяснение нового материала	3 Explanation of new materials
4 Индивидуальные консультации	4 Personal consultations
5 Методическая работа	5 Methodological work
6 Адаптация материалов	6 Material adaptation

The teachers could mark several answers. All types of activities shown in the figure began to consume more time for at least 20% of teachers. Two types of activities: 70 and 79 percent of teachers noted "adapting materials for lessons" and "checking homework".
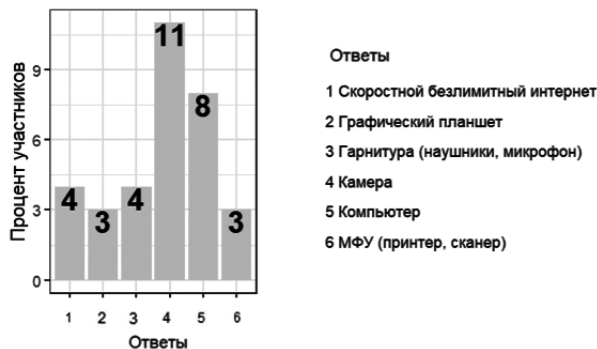
Fig. 4. Which hardware was missing?

Процент участников	Percentage of participants
Ответы	Answers
1 Скоростной безлимитный интернет	1 High speed unlimited Internet
2 Графический планшет	2 Graphic tablet
3 Гарнитура (наушники, микрофон)	3 Headset (headphones, microphone)
4 Камера	4 Camera
5 Компьютер	5 PC
6 МФУ (принтер,сканер)	6 MFPs (printer, scanner)

Аленина Е.А., Барцева К.В., Ли О.В., Залешин М.С., Лиханов М.В., Ковас Ю.В. Уроки пандемии:
анализ опыта перехода на онлайн-преподавание в средней школе
Психологическая наука и образование. 2022. Т. 27. № 6

Participants mentioned whether they needed additional hardware for e-learning by choosing one answer option "Need" or "Not needed". More than 50% of participants mentioned that they did not need additional funds. Slightly more than 30% of teachers answered that they lacked some hardware and additionally mentioned what hardware was missing. There was no limit to the number of items that participants could enter. Figure 4 shows the results of the analysis of teachers' answers to this additional question.
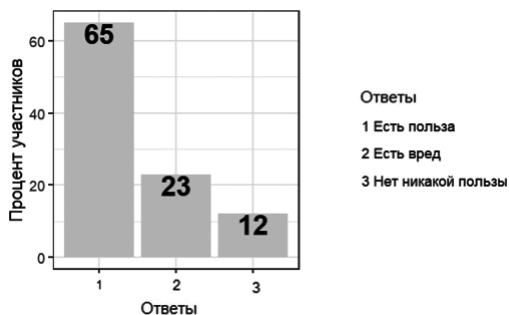
Fig. 5. From e-learning…

Процент участников	Percentage of participants
Ответы	Answers
1 Есть польза	1 There is benefit
2 Есть вред	2 There is harm
3 Нет никакой пользы	3 No benefit

As shown in Figure 5, continuing the phrase "From e-learning…", the majority of teachers (65%) chose the option "there is benefit". Half as many (23%) teachers noted that "there is harm" and even fewer (12%) — "there is no benefit."
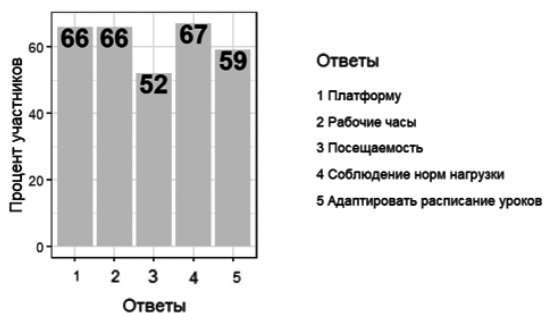
Fig. 6. A school should regulate …

Процент участников	Percentage of participants
Ответы	Answers
1 платформу	1 Platform
2 Рабочие часы	2 Working hours
3 Посещаемость	3 Attendance
4 Соблюдение норм нагрузки	4 Compliance with the work load norms
5 Расписание уроков	5 Timetable

Alenina E.A., Bartseva K.V., Lee O.V., Zaleshin M.S., Likhanov M.V., Kovas Y.V. Lessons from the Pandemic:
Analyzing the Experience of Distant Learning in Secondary Schools
Psychological Science and Education. 2022. Vol. 27, no. 6

Teachers chose several answers for question — "What should the school regulate?" Many teachers think that the school should regulate all these aspects of e-learning.

FIg. 7. Disadvantages of e-learning named by the teachers

Процент участников	Percentage of participants
Ответы	Answers
1 Технические проблемы	1 Technical issues
2 Отсутствие живого общения	2 No live communication
3 Увеличилась нагрузка	3 Load increased
4 Списывание учащихся	4 Students are copying off
5 Здоровье	5 Health
6 Нет единой методики работы онлайн	6 No unique methods of online work
7 Понизилась эффективность оценивания	7 Assessment efficiency has decreased
8 Воздержались от ответа	8 Preferred not to answer

The figure demonstrates the frequency distribution of answers related to the issue of the disadvantages of the online form. The most common answers were: "hardware problems" (51%) — here teachers pointed out problems with hardware of students and poor quality of the Internet connection; and "no live communication" (39%).

Fig. 8. Advantages of the e-learning form named by teachers

Процент участников	Percentage of participants
Ответы	Answers
1 Разнообразие онлайн платформ	1 Variety of online platforms
2 Саморазвитие	2 Self-development

Аленина Е.А., Барцева К.В., Ли О.В., Залешин М.С., Лиханов М.В., Ковас Ю.В. Уроки пандемии:
анализ опыта перехода на онлайн-преподавание в средней школе
Психологическая наука и образование. 2022. Т. 27. № 6

3 Комфорт	3 Comfort
4 Индивидуальный подход	4 Individual approach
5 Самостоятельность учащихся	5 Independence of students
6 Свободный/гибкий график	6 Free/flexible schedule
7 Доступность	7 Accessibility
8 Современное	8 Timely
9 Воздержались от ответа	9 Preferred not to answer

The graph shows the most common responses from participants to the question about the benefits of the remote format. The most popular replies were: "*independence of students*" (22%), "*more flexible hours*" (19%) and "*comfort*" (17%). 21% of teachers did not choose any option.

For example, several studies have identified a number of important conditions for e-learning: willingness of students to study remotely, expertise of the teacher, support from the educational institution [12]; and the availability of hardware for classes in a remote form and other resources [11]. Studies has also demonstrated that a higher skill of the use of technologies was associated with a low stress level and readiness to apply technologies in work [24]. The studies have shown a significant improvement in digital competence among teachers with 5—10 years of experience associated with motivation for professional development in new conditions [8].

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——— ПСИХОЛОГИЯ РАЗВИТИЯ | DEVELOPMENTAL PSYCHOLOGY ———

The Development of Social Competence in Adolescents in the Conditions of Inclusive Education

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The work is aimed at determining the level of formation of social competence in adolescents with disabilities and assessing the state of ensuring its development in adolescents by means of a lesson and extracurricular activities. The materials of an empirical study are presented, in which adolescents from 12 to 16 years old took part (N=123 with disabilities and N=123 with normotypical development). The study examined the operational-content, personal-regulatory, motivational-emotional and behavioral components of social competence. We used the methodology for Studying the Understanding of Social Situations and Ideas about Growing up by N. Moskolenko; Adapted Method of M. Rokeach; the Scale of Emotional Empathic Tendencies by A. Megrabyan, N. Epstein; Method of Coping Strategies by N. Ryan-Wegner; Test by S. Rosenzweig and others; methods of observation, conversation and analysis of documentation. The data obtained for each criterion indicate that the social competence of adolescents with disabilities is formed at a low level, in adolescents in the norm – at a sufficient level. An analysis of the adapted curricula and a survey of teachers showed that the methods and resources that teachers and tutors use to work with adolescents in the classroom and outside of school hours are insufficient for the formation of the presented competencies in adolescents with disabilities.

Keywords: adolescents, inclusion, social competence, components, levels, social reflection, social situations, behavior.

Bystrova Yu.A.
The Development of Social Competence in Adolescents in the Conditions of Inclusive Education
Psychological Science and Education. 2022. Vol. 27, no. 6

Развитие социальной компетентности у подростков с ОВЗ в условиях инклюзивного образования

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Работа направлена на определение уровня сформированности социальной компетентности у подростков с ОВЗ и оценку состояния обеспечения ее развития средствами урока и внеклассной работы. Представлены материалы эмпирического исследования, в котором приняли участие подростки от 12 до 16 лет (N=123 с ограниченными возможностями здоровья и N=123 с нормотипичным развитием). Для исследования авторами выделены операционно-содержательный, личностно-регуляторный, мотивационно-эмоциональный и поведенческий компоненты социальной компетентности. Применялись: методика исследования понимания социальных ситуаций Н. Москоленко; адаптированная методика М. Рокича; шкала эмоциональных эмпатийных тенденций А. Меграбяна, Н. Эпштейна; методика копинг-стратегий N. Ryan-Wegner; тест С. Розенцвейга и др.; методы наблюдения, беседы и анализа документации. Данные, полученные по каждому критерию, указывают, что социальная компетентность подростков с ОВЗ сформирована на низком уровне, у подростков в норме — на достаточном. Анализ адаптированных учебных программ и опрос педагогов показали, что те методы и ресурсы, которые используют учителя и тьюторы для работы с подростками на уроках и во внеурочное время, недостаточны для формирования представленных компетенций у подростков с ОВЗ.

Ключевые слова: подростки, инклюзия, социальная компетентность, компоненты, уровни, социальная рефлексия, социальные ситуации, поведение.

Introduction

Rapid changes in the economic development of society require school graduates to use new social competencies in order to successfully integrate into the professional environment and accomplish one's professional goals. At the present stage, it is not only knowledge that will help one master a chosen profession, but also the communicative and organizational foundations of interpersonal and group interaction, those integrative qualities that will allow one to

Быстрова Ю.А.
Развитие социальной компетентности у подростков с ОВЗ в условиях инклюзивного образования
Психологическая наука и образование. 2022. Т. 27. № 6

work in a team, take responsibility, make decisions, manage and work under guidance, settle conflicts and manage complicated production situations, purposefully seek help and provide it to the team, apply a holistic approach to the organization of professional activities inside the team and become aware of one's role and significance in it (S. Jay, S. Joyce, D. Tige, M. Fuller-Tushkevich , F. Shand et al.) [21; 23; 24]. We consider these skills and abilities as a component of the student's social competence, an integrative quality of the personality, which is formed and laid down at preschool age during role-playing and continues to develop in school [13; 14]. It is especially important to pay attention to the development of this quality in adolescence when interpersonal communication turns into leading activity along with learning. This process is particularly difficult for adolescents with special educational needs due to their limited health abilities (HIA). Regulatory documents detailing implementation an inclusive educational environment provide for the development of social competencies by students on the basis of the acceptance and support of each member of the team. Long-term studies prove that more than half of senior students with disabilities in inclusive classes (56.4%) experience problems with communication — they demonstrate uncertainty in communication, rely solely on their tutor trying to get a ready-made solution of the problem, do not understand how to independently assess a new situation and identify the degree of complexity of its solution, while working in a group they tend to shift responsibility for completing the task to peers or adults, they do not understand how to make friends and continue to communicate, they demonstrate estrangement and social withdrawal [3; 4]. It should be noted that the same problems are characteristic of 25% of students with neurotypical development [14]. A study of conflict behaviour in ado-

lescents shows that about 40% of students with disabilities and 17% of students with neurotypical development are unable to resolve conflicts on their own [21]. 45.7% of adolescents with disabilities have little control over their own behaviour in group interaction, are prone to impulsive actions, and unable to create social bonds [4; 22]. Therefore, the development of social competence in adolescents against the background of inclusion become a top priority for the modern education system.

This paper studies social competence within the context of the psychological and pedagogical aspect as an individual quality of the personality, allowing it to integrate into society, and establish axiological and moral standards of the individual, its attitude towards oneself and others [2]. This property allows the individual to succeed in daily, professional, socio-economic, family and other aspects of social life (N.A. Kolodnaya, V.V. Rubtsov, N.N. Tolstykh, I.M. Ulanovskaya, O.A. Ulyanina) [8; 13; 15; 16; 23].

In the context of inclusive education, social competence is regarded as a component of the successful socialization of the disabled, i.e. personal qualities acquired in the process of correctional educational activities (T.A. Boldyreva, Yu. A. Bystrova, V.E. Kovalenko) [1; 2; 17; 18; 21; 24].

The purpose of the work is to determine the level of social maturity in adolescents with disabilities and to assess the degree to which its development is ensured in adolescents by means of educational and extracurricular activities. We consider the relationship between the educational and extracurricular activities in the study as the main area of interaction in the "teacher-student" system, based on the needs and interests of adolescents, their own choice of various areas of activities apart from educational, in various areas of possible integration of adolescents into society (integration through sports, creative, recreational, entertaining and socially useful),

Bystrova Yu.A.
The Development of Social Competence in Adolescents in the Conditions of Inclusive Education
Psychological Science and Education. 2022. Vol. 27, no. 6

which can be implemented in developmental programs, competitions, guided tours, creative circles, sports clubs and patriotic events, create a comfortable environment for the student and provides him with a situation of success in activities important for adolescence. Success in leading activities is ensured, in its turn, by the development of personality (A.N. Leontiev) [6].

Research Methods

The methodological framework of the study is represented by the conceptual provisions of the theory of sociopsychological characteristics of socialization as a process of active acquisition of social norms, and patterns of behaviour by an individual (O.K. Agavelyan, L.S. Vygotsky, Ya.L. Kolominsky, V.V. Rubtsov, N.N. Tolstykh, VN Sinev), provisions for the development of higher mental functions during teamwork [2; 7; 12; 15], conceptual studies of the competency-based approach (I.A. Zimnyaya, O.A. Ulyanina, A.V. Khutorskoy) [16].

The study was conducted during 2018—2020 in two directions: 1) the study of the level of social maturity in cognitively impaired adolescents and those with disabilities; 2) trace the relationship between educational and extracurricular activities as a factor in the development of social competence in adolescents.

Within the framework of the first concept, the main components of studying the level of development of social competence in adolescents are defined as operational and content related, regulatory personalized, motivationally emotional, and behavioural.

Research methods:

Stage I. The study of the operational and content component: an adapted method for studying the understanding of social situations by N. Moskolenko [10] (based on the "Ability to analyse social situations" criteria); methodology of ideas about growing up N. Moskolenko (based on the "Fore-casting, planning and achieving results" criteria); the scale of social competence of E. Doll in the study of A. Prikhozhan [11] (based on the "Social awareness" criteria).

Criteria for assessing the ability to analyse social situations:

— the ability to structure communicative situations in accordance with their modality and orientation;

— the ability to determine the motives of mutual relationship;

— awareness of the place of the object in the social space;

— awareness of the process and content-related characteristics of social behaviour.

Criteria for evaluating forecasting, planning and achievement of results:

— well-formedness of forecasting abilities and social expectations;

— planning and implementation of interpersonal tasks;

— the ability to foresee social phenomena in their development;

— the ability to evaluate information about the qualitative and quantitative characteristics of social phenomena in the future and in the process of achieving results.

Criteria for assessing social awareness:

— awareness of the need to acquire new social knowledge;

— awareness of social norms;

— understanding the nature and methods of interpersonal relationships while performing different activities.

Stage II . The study of the regulatory personalized component: the method of studying the value orientations of M. Rokeach edited by O. Primak, N. Kolodnaya [8] (based on the "Development of social reflection", "The ability to evaluate and regulate one's own behaviour" criteria); observation of children's behaviour in a group of peers.

Criteria for assessing the development of social reflection:

— inclination to introspection;

Быстрова Ю.А.
Развитие социальной компетентности у подростков с ОВЗ в условиях инклюзивного образования
Психологическая наука и образование. 2022. Т. 27. № 6

— inclination to impartial self-awareness;

— the ability to identify one's own mistakes, analyse and correct them;

— the ability to build interpersonal relationships, taking into account the attitude of peers and adults towards them.

Criteria for assessing the ability to evaluate and regulate one's own behaviour:

— the ability to assess and regulate one's own behaviour during social interaction;

— the ability to express one's own opinion and change it after listening to others;

— the ability to assess the situation, and choose ways to resolve it;

— the ability to identify one's own mistakes and correct them independently;

— the ability to regulate their behaviour in stressful situations.

Stage III . Study of the motivational emotional component: MAS questionnaire by M. Kubyshkina [9] (according to the "Development of socially oriented motivation" criteria); the scale of emotional empathic tendencies by A. Megrabyan, N. Epstein [19] (based on the "Development of empathic tendencies in behaviour" criteria).

Criteria for assessing the development of socially oriented motivation:

— positive attitude to interpersonal interaction;

— social performance in leading activities;

— the presence of motivation for different types of activities;

— awareness of one's behaviour in socially oriented situations.

Criteria for assessing the development of empathic tendencies in behaviour:

— the ability to empathize;

— awareness of mutual feelings and mental state of others;

— the ability to perceive the emotions of others;

— inclination to provide assistance during interpersonal interaction.

Stage IV. The study of the behavioural component: N. Ryan-Wegner's method for determining coping strategies, adapted by N. Sirota, V. Yaltonsky [3]; S. Rosenzweig's test [5] (based on the "Application of acquired competencies in behaviour") criteria); the game "Little Island" and an educational experiment (based on the "Possessing the ability to work in a team" criteria) [4].

Criteria for assessing the application of acquired competencies in behaviour:

— positive attitude towards others;

— the desire to communicate with peers;

— the ability to work with others;

— active involvement in interpersonal relationships;

— observance of general norms and rules of social behaviour.

Criteria for assessing the ability to work in a team:

— the ability to work in a team;

— active involvement in interpersonal relationships;

— observance of general norms and rules of social behaviour.

Method scores were reduced to a common denominator equal to 10 and ranked into levels: 1—3 — low, 4—6 — medium, 7—8 — sufficient, 9—10 — high. The general level of social competence was assessed according to the lowest level obtained according to individual criteria.

In view of the mental characteristics of the respondents in the selection of adolescents with disabilities, all methods were implemented individually, accompanied by an explanation of incomprehensible statements, clarification of the meaning of what was read and understanding of the instructions using reverse questions. The answers were compared with the answers of teachers and tutors when observing adolescents in free communication and when completing tasks of an educational experiment. Diagnostics was carried out once a week for 6 months, the duration of one lesson with a teenager with

Bystrova Yu.A.
The Development of Social Competence in Adolescents in the Conditions of Inclusive Education
Psychological Science and Education. 2022. Vol. 27, no. 6

disabilities did not exceed 30 minutes, group lessons — no more than 45 minutes.

To assess the development of social competence in mentally impaired adolescents and those with disabilities, we have identified generalized levels — high, sufficient, medium and low [3].

A high level of development of social competence: a teenager clearly demonstrates fluency in all shared standards of acceptable aspects of social behaviour; capable of analysing social situations; possesses skills of forecasting, planning and achievement of the results; always demonstrates social awareness; well-formed social reflection; the ability to evaluate and regulate this own behaviour; demonstrates socially driven motivation; inclination to empathic tendencies in behaviour; capable of applying the acquired competencies in behaviour; demonstrates the ability to work in a team.

A sufficient level of development of social competence: a teenager understands the essence and content of socially acceptable behaviour; demonstrates the ability to analyse social situations; demonstrates forecasting skills, ability to plan and achieve the results, however not in all communicative situations; demonstrates social awareness; boasts a well-formed social reflection; the ability to evaluate his own behaviour, albeit is not always able to regulate it; demonstrates socially driven motivation; reveals empathic tendencies in behaviour; tends to apply the acquired competencies in behaviour mainly in typical and familiar situations; able to work in a team.

The average level of development of social competence: a teenager partially reveals awareness of the essence of socially acceptable behaviour; demonstrates the situational ability to analyse social context; partially reveals the skills of forecasting, planning and achieving results; albeit is not able to always fully demonstrate social awareness; does not clearly reveal the development of social reflection; demon-

strates the incomplete ability to evaluate and regulate his own behaviour; capable of manifesting socially driven motivation in familiar situations; demonstrates lack of empathic ability; reveals the difficulty of transferring acquired competencies into behaviour; lacks the ability to work in a team.

Low level of development of social competence: a teenager demonstrates sporadic knowledge of socially acceptable behaviour; is incapable of independent analysis of social situations; does not demonstrate the skills of forecasting, planning and achieving results; demonstrates a lack of social awareness and development of social reflection, is unable to evaluate and regulate his own behaviour; demonstrates lack of socially driven motivation and empathic tendencies in behaviour; is unable to apply the acquired competencies in interpersonal interaction; demonstrates lack of interest to the team work.

Acquisition of social skills in individuals with disabilities occurs better during practical activities [4; 7; 17]. Therefore, the second direction of the study was the analysis of the relationship between the lesson and extracurricular activities in an educational institution as a factor in the development of social competence in adolescents engaged in practical activities.

For this purpose, the following methods were applied:

— conversation with teachers aimed at studying their opinion about the possibilities and conditions for the development of social competence in adolescents with disabilities using the link between the lesson and extracurricular activities;

— analysing the content of adapted basic general education programs (ABGEP) and individual educational routes (IEM) for students with disabilities for appropriate forms and methods of work.

To study both directions, we used statistical methods for quantitative and qualitative processing of the results.

Быстрова Ю.А.
Развитие социальной компетентности у подростков с ОВЗ в условиях инклюзивного образования
Психологическая наука и образование. 2022. Т. 27. № 6

Organization of the Study

Selection. The study was conducted in inclusive classes of educational organizations. It was attended by adolescents aged 12—16 years (average age 14.9 years) with disabilities (n=123), residing in Moscow (n=35), Leningrad (n=32), Lugansk (n=29), and Donetsk (n=27) regions; the control group consisted of adolescents with normotypical development (n=123) from the same regions. A selection of adolescents with disabilities participating in the test at different stages for each marker of social competence, taking into account nosologies (global developmental delay (GDD) intellectual development disorder (IDD), and general underdevelopment of speech (GUS) is represented in Table 1.

Results

The levels of development of social competence among adolescents by components are represented in Table 2.

The average score in the group, obtained for each criterion, shows that, on average, the social competence of adolescents with disabilities remains underdeveloped, while in adolescents without disabilities — it is developed at a sufficient level for all criteria, except for the personal-regulato-ry one, this indicator is on average slightly lower than sufficient level (6.8). The results presented in Table 1, clearly demonstrate that adolescents with disabilities are significantly behind the norm in social development. The lowest indicators in both groups were recorded at the level of development of the regulatory and personal component: a high and sufficient indicator for this criterion was found only in 2.4% of adolescents with disabilities and 40.6% of those with underdevelopment of speech. More than half of adolescents with disabilities, with the exception of those with underdevelopment of speech, demonstrated a low level of social competence in all criteria.

It should be noted that adolescents, including those with disabilities, from Lugansk and Donetsk Regions, have a higher level of ability to analyse social situations, predict, plan and achieve results. Thus, a sufficient level according to these indicators was found in 16.3% of adolescents with disabilities and 54% of those with speech underdevelopment from the Lugansk and Donetsk Regions, and only in 6.9% and 32.6%, respectively, from Leningrad and Moscow regions, which may be consequences of surviving some traumatic events and lack of a permanent comfort zone. We did not iden-

Table 1

Selection of teenagers with disabilities

Indicators based on criteria	GDD	IDD	GUS	N of valid	Minimum	Maximum	Average	Standard deviation
Ability to analyse social situations	56	30	37	123	30	56	41	1.7225
Forecasting, planning and achieving results	56	30	37	123	30	56	41	1.7225
Social awareness	56	30	37	123	30	56	41	1.7225
Development of social reflection	54	16	37	107	16	54	35.7	2.6153
The ability to evaluate and regulate one's own behaviour	56	30	37	123	30	56	41	1.7225
Development of socially oriented motivation	54	16	37	107	16	54	35.7	2.6153
Development of empathic tendencies in behaviour	56	30	37	123	30	56	41	1.7225
Application of acquired competencies in behaviour	56	30	37	123	30	56	41	1.7225

Bystrova Yu.A.
The Development of Social Competence in Adolescents in the Conditions of Inclusive Education
Psychological Science and Education. 2022. Vol. 27, no. 6

Table 2

Development of social competence within groups of teenagers with disabilities and general underdevelopment of speech (GUS) by components

Components	Group	Levels (number of people in a group)				Average score in a group	P≤
		high	sufficient	average	low		
Operational-content	DISABLED	0	14	44	65	3.1	0.05
	GUS	22	53	48	0	7.11	
Personal-regulatory	DISABLED	0	3	39	81	2.25	0.01
	GUS	13	50	60	0	6.8	
Motivational-emotional	DISABLED	0	14	46	63	2.52	0.01
	GUS	21	54	48	0	7.05	
Behavioural	DISABLED	0	10	48	65	2.37	0.01
	GUS	20	57	46	0	7.15	
General indicator	DISABLED	0	3	39	81	2.25	0.01
	GUS	13	50	60	0	6.8	

tify any other significant differences in other indicators in the level of social competence among adolescents from different regions of the Russian Federation.

The study of the relationship between educational and extracurricular activities as a condition for the development of social competence, conducted through a series of conversations with teachers, involved 52 teachers. The analysis of these conversations allowed us to obtain the following results.

In responses to the analysis of the manifestation of social competence in adolescents with disabilities, teachers noted that the vast majority of adolescents with disabilities, despite understanding and declaring socially approved behaviour, in practice show indifferent or negative attitudes to situations, which require interpersonal interaction (65.4%), are not capable of empathy (48.1%), are unable to recognize mutual feelings and mental states of others (69.2%); perceive their emotions (51.9%); are not inclined to provide assistance in situations requiring interpersonal interaction (46.2%), are unable to work in a team (32.7%); and are indifferent to others (36.5%), which indicates a low level of development of the emotional and behavioural components of social competence.

Also, teachers indicate that adolescents with disabilities cannot determine the reasons behind the mutual relations (51.9%); have no life plans (61.5%); no determination for different types of social interaction (84.6%), they are not motivated to communicate with peers, and if communication is necessary, they do not take into account the attitude of peers and adults towards them (46.2%), which confirms the low level of development of social motivation.

The biggest problem, according to teachers, is the fact that adolescents with disabilities are not able to regulate their own behaviour during social interaction (51.9%); have no opinion of their own and do not always listen to others (46.2%); they are unable to see and admit their own mistakes as well as correct them on their own (46.2%), which confirms the low level of development of social motivation.

The majority of teachers (92.3%) point to the relationship between educational and extracurricular activities in the development of social competence in adolescents. In addition, they focus on the need to harmonize the components of the educational and extracurricular activities in the following areas:

— interdependence of the content on subjects related to the development of so-

Быстрова Ю.А.
Развитие социальной компетентности у подростков с ОВЗ в условиях инклюзивного образования
Психологическая наука и образование. 2022. Т. 27. № 6

cial competence in the classroom and during extracurricular activities (69.2%);

— the relationship in determining educational, developmental and correctional goals of educational and extracurricular activities (40.4%);

— systemic and interconnected selection of tasks for the development of social competence among schoolchildren with disabilities in the classroom and during extracurricular activities (48.1%);

— psychological and pedagogical support in the process of development of social competence in the classroom and during extracurricular activities (65.4%);

— continuity of educational, remedial and disciplinal activities on the development of social competence in adolescents with disabilities (36.5%).

When answering the question "Which social competencies should be developed in the classroom, and which ones during extracurricular activities" teachers (63.46%) noted that it makes more sense to develop an operational-content component in the classroom. The remaining components (personality-regulatory, motivational-emotional, behavioural) should be developed during extracurricular work. It should be noted that a significant part of teachers (36.5%) indicated the need to combine them in the process of development.

Teachers focused on the fact that all academic disciplines and areas of extracurricular activities are aimed at the development of socially approved social behaviour (86.5%). It was noted that due to the peculiarities of the development of perceptions and awareness in children with disabilities, the norms of social behaviour are developed slowly and with certain difficulty (92.3%). Teachers note that adolescents with disabilities are capable of transferring this knowledge into everyday behaviour only if they are offered an appropriate system of psychological and pedagogical support, which provides for the development of knowledge, skills and abili-

ties in the context of the relationship between the educational and extracurricular activities (73.1%). The analysis of AOEP and IEM for students with disabilities has brought us to the conclusion that the methods and forms of work aimed at developing group interaction, empathy, emotional response in adolescents, development of regulatory skills, as well as social motivation as indicators of social competence, are practically not included in curricula separately in any region.

Discussion of the Results

Within the framework of the analysis of the results, we found that the lowest rates are observed in adolescents with disabilities in the following skills:

— personal-regulatory: development of social reflection, the ability to evaluate and regulate one's own behaviour, the skills of independent work and self-control, the ability to plan one's own actions and seek help or independently look for information to solve any problem, the ability to transfer the acquired theoretical skills to new conditions of the performed tasks;

— behavioural: socially approved behaviour, the ability to independently make choices among various types of actions for resolving social situations, the ability to resolve conflict situations, create social bonds, develop friendly interpersonal relationships, and work skills both in a team and under the supervision of an adult.

It is known that students with disabilities learn best during practical activities, which focus on their life experience, it is thus important to work with them using case modelling of real situations, and integrated thematic training, in which the same social matter will be examined and elaborated upon simultaneously during different educational and extracurricular activities, and further consolidated in cases [3; 4; 7; 17]. It turned out to be more problematic to study the motivational component of social competence in adolescents with MA and

Bystrova Yu.A.
The Development of Social Competence in Adolescents in the Conditions of Inclusive Education
Psychological Science and Education. 2022. Vol. 27, no. 6

mental retardation, some of them refused to take the test (Table 1), citing difficulty with understanding.

Qualitative analysis of the results of individual methods and observation of adolescents, including those with disabilities demonstrated a strong link between understanding situations and motivation for social interaction, as well as between regulatory skills and emotional response to the situation — on these relationships, it is necessary to build their competence using these situations.

An analysis of the responses of adolescents with disabilities, who showed low and medium levels of social competence development, indicates that they have not developed a strong link between understanding, awareness of activity and direct activity in new conditions. The difficulty in transferring a skill to new conditions requires compensation for this disorder in the educational activity by the student's experience — the accumulation of a larger number of studied and mastered essential characteristic traits of any conditions and situations so that the teenager learns to recognize them independently and apply the developed social skill.

The low level of social competence of adolescents with disabilities, as well as the analysis of AOOP, IEM, adapted curricula and a survey of teachers, led to the conclusion that the methods and resources that teachers and tutors use to work with adolescents in the classroom and outside of the school hours are insufficient for the development of the above-mentioned competencies in adolescents with disabilities.

Main Results of the Study and Possible Prospects

Thus, we managed to determine the levels of development of social competence in adolescents with disabilities according to four components and their indicators: operational-content (ability to analyse social situations, predict, plan and achieve results; social awareness), personal-regulatory (development of social reflection, ability to evaluate and regulate one's own behaviour), motivational-emotional (development of socially oriented motivation and empathic tendencies in behaviour) and behavioural (application of acquired competencies in behaviour; ability to work in a team).

We have managed to compare the indicators of social competence in adolescents with disabilities and those without, determine the qualitative relationship between the development of individual components of social competence in adolescents with disabilities. The analysis of the results shows that more than half of adolescents with disabilities (56.5%) have low social competence and heterochrony in the development of its components; social reflection, self-regulation and socially oriented motivation are especially poorly developed within this group.

The second direction of the study made it possible to assess the state of ensuring the development of social competence in adolescents by means of educational and extracurricular activities. The analysis of conversations with teachers has allowed us to identify various aspects of the problem of AOEP and IEM of adolescents with disabilities, the relationship between the educational and extracurricular activities as a factor in the development of social competence in conditions of inclusion, the main components of social competence (personal-regulatory, motivational-emotional), the development of which is poorly reflected in individual educational routes for adolescents with disabilities, methods and forms of work of teachers.

The results obtained in the study indicate an insufficient level of development of social competence in adolescents with disabilities in comparison with those who have none, and also indicate that without the implementation of specially organized systematic work on its development, it will remain poorly developed by the time children reach adolescence,

Быстрова Ю.А.
Развитие социальной компетентности у подростков с ОВЗ в условиях инклюзивного образования
Психологическая наука и образование. 2022. Т. 27. № 6

We associate the prospects for further research with the development of a system of activities aimed at developing social competence in adolescents with disabilities based on the use of special technologies for tutor support in the classroom and extracurricular activities, modelling real situations of social interaction in order to transfer the acquired skills to new conditions. Separate tasks will be the development of a procedure for studying social motivation among students with disabilities, in particular with intellectual disabilities, and the study of the gender aspect of the problem.

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Bystrova Yu.A.
The Development of Social Competence in Adolescents in the Conditions of Inclusive Education
Psychological Science and Education. 2022. Vol. 27, no. 6

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Развитие социальной компетентности у подростков с ОВЗ в условиях инклюзивного образования
Психологическая наука и образование. 2022. Т. 27. № 6

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CHILDHOOD WELL-BEING.
THEMATIC ATTACHMENT |
ТЕМАТИЧЕСКОЕ ПРИЛОЖЕНИЕ
«БЛАГОПОЛУЧИЕ ДЕТСТВА»

Dear readers!

Here is a special issue of the journal, the publication of which is associated with the presentation of scientific research carried out within the framework of the state task of the Ministry of Education of the Russian Federation in 2022 by specialists of Moscow State University of Psychology and Education.

The subject of the works is determined by the content of the activities implemented within the framework of the Decade of Childhood and approved by the Government of the Russian Federation. Therefore, the relevance of the results obtained is beyond doubt, and most importantly, they will be immediately applied to practice.

The basis for replicating practices is the use of an evidence-based approach, which is actively developing in our country, so it is fundamentally important to monitor its adoption by specialists in various fields, including non-profit ones.

The target groups of the research were children (the sample consisted of almost 15 thousand teenagers), specialists of custody and guardianship authorities for minors; specialists of institutions for orphans and children left without parental care, families of "risk groups" for alcohol and narcotic substances.

The studies of the subjective well-being of children and adolescents and the formation of the Index of Child Well-being, acting as a "measure" of the effectiveness of everything that is being done in the country in the field of childhood united all categories of children and specialists.

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Relationship of Lifestyle Activity, Subjective Health and Subjective Well-Being of Adolescent Children in the Russia

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The article presents the results obtained within the framework of the All-Russian empirical study "Subjective well-being of older adolescent and adolescent children in the Russian Federation" (2021), in which 10626 respondents (13—17 years old) from 22 regions of the Russian Federation participated. Interest in the topic is due to anxiety for the physical and psychological health of the younger generation entering adulthood. The obtained results made it possible to prove the existence of a positive close relationship between satisfaction with one's own activity in the social and physical spheres, subjective health, comfort of the educational environment and the summary score of subjective well-being (hereinafter SB) among the study participants. The identified age and gender patterns of changes in the level of closeness of the scales with the SB, a comparative analysis of satisfaction ratings with them in dynamics indicated their dependence on puberty and adolescent crises. It is shown that girls rate their "activity" and "comfort of the educational environment" lower than boys and are less vulnerable to stress associated with leaving school. It was revealed that in informants with disabilities, the assessments of their activity and subjective health have a negative age dynamic, in contrast to conditionally healthy ones. Living in ecologically unfavorable (polluted) and hard-to-reach territories has a negative impact on respondents' assessments of activity and subjective health.

Keywords: subjective well-being, health, activity, age and gender dynamics, conditionally healthy and respondents with disabilities, difficult-to-live territories.

Oslon V.N., Prokopeva L.M., Kolesnikova U.V. Relationship of Lifestyle Activity, Subjective Health
and Subjective Well-Being of Adolescent Children in the Russia
Psychological Science and Education. 2022. Vol. 27, no. 6

Активность образа жизни, субъективное здоровье и субъективное благополучие детей старшего подросткового и юношеского возраста в Российской Федерации

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В статье представлены результаты исследования «Активность образа жизни, субъективное здоровье и субъективное благополучие детей старшего подросткового и юношеского возраста», выполненного в рамках более широкого всероссийского исследования субъективного благополучия детей в Российской Федерации в первой половине 2022 г. В исследовании участвовали 10626 информантов (13—17 лет) из 22 регионов. Актуальность выбора узкой темы обусловлена особым состоянием российского общества, переживающего «постковидный синдром», следствием которого стало общее снижение социальной и физической активности. Наиболее уязвимой категорией являются дети, чье взросление проходит в условиях пандемии и ее последствий. В связи с этим основной акцент в статье делается на самооценках информантов своей активности в социальной и физической сферах, а также субъективного здоровья. В качестве основного социального контекста информантов рассматривались образовательная среда и их удовлетворенность ее комфортностью. Установлено наличие положительной тесной связи между данными показателями и субъективным благополучием (СБ). Прослежены особенности данных оценок у девушек и юношей в зависимости от возраста, наличия ОВЗ, территории проживания. Показано, что наиболее высокие и низкие самооценки связаны с началом и (или) завершением пубертатного и юношеского кризисов. Установлено, что девушки ниже оценивают себя по всем показателям, чем юноши. При этом они менее уязвимы в отношении экзаменационного стресса. Если у юношей СБ снижается в ситуации сдачи ОГЭ и ЕГЭ, то у девушек оно повышается. У информантов с ОВЗ оценки удовлетворенности своей активностью и субъективным здоровьем снижаются с возрастом. Установлено, что респонденты, проживающие на затрудненных для жизни территориях (экологически загрязненных, труднодоступных территориях, Арктической зоне), в значительно меньшей степени по сравнению с «нормотипичными» территориями удовлетворены своей активностью и субъективным здоровьем. В целом информанты выше оценивают удовлетворенность комфортностью образовательной среды, чем активностью и субъективным здоровьем.

117

Introduction

The quality of life in society is largely determined by the level of psychological and physical health of the younger generation [1; 4; 5; 6]. According to the Russian Ministry of Health, from 35 to 40% of high school graduates have chronic diseases and functional abnormalities [7; 12], a low percentage of children aged 5—17, only 7.5% comply with WHO recommendations on physical activity; according to the Ministry of Sport (2022), 1 in 3 students in different grades cannot meet the TRP norms for their age group. All this diminishes to a certain extent the life potential of both the children themselves and society as a whole.

Health is largely determined by lifestyle activity and subjective assessments. Researchers emphasize the link between lifestyle activity (physical activity) and positive health-related constructs such as SW [15]. This is reflected in the WHO definition, which defines 'health' as 'a state of complete physical, mental and social well-being and not the absence of disease or infirmity.' At the level of empirical research, higher overall levels of subjective well-being have been shown to lead to better health [18], reduce the risk of obesity and stroke, mental health strain, and reduce symptoms of depression and anxiety [16; 19; 22; 23; 24; 26].

A worldwide trend is the lack of healthy behaviour among adolescents and young people, as well as a decline in the assessment of their physical activity and subjective health. According to WHO, in children aged 11—15 years, self-assessed health declines in all countries and regions [22]. Lower rates of physical activity and subjective health in girls than in boys have become common [13; 14; 16; 22; 25; 27].

'Lifestyle activity' traditionally refers to physical activity, which 'is an important factor in well-being.' The international HBSC report notes that 'physical activity is an important factor in well-being,' 'includes physical and mental health and can improve school performance, cognitive function' and somatic and mental well-being, as well as 'enhancing social interaction and community engagement' [13; 20].

'Subjective health' refers to 'the perception of symptoms and the extent to which one is in a healthy or sick state'; subjective health 'enables a person to function, feel well, be productive, and lead an active life. It is a determinant of future health outcomes' [14], which in turn are closely related to self-assessed health, health satisfaction, and life satisfaction [9].

SW is seen as: 'an umbrella term for various assessments regarding one's life, events,' 'an umbrella concept encompass-

Oslon V.N., Prokopeva L.M., Kolesnikova U.V. Relationship of Lifestyle Activity, Subjective Health
and Subjective Well-Being of Adolescent Children in the Russia
Psychological Science and Education. 2022. Vol. 27, no. 6

ing relevant aspects of global well-being' [17; 21].

The author's definition of subjective well-being is based on V. N. Myasishchev's theory, which characterizes personality as a system of relations [10; 11]. The construct of subjective well-being assesses the satisfaction of informants with their system of relationships: to themselves, to others, to their environment, to their chronotope [11].

The period between the ages of 13 and 17 is heterogeneous and burdened by a rather painful sociobiological crisis [2; 3]. In the Russian tradition, it includes adolescence and young adulthood, within which the current developmental situation, leading activities, adolescent and young adult crises take place, new formations appear, 'gender differences in social relations and a number of aspects of mental and physical health begin to emerge' [20].

The aim of the study was to identify the existence and nature of the relationship between subjective well-being and lifestyle activities and subjective health, as well as the characteristics of their satisfaction scores among adolescent and young adult children, depending on age, gender,

presence of disabilities, and territory of residence.

The findings are essential for the development of psychological support programmes for adolescents and young people of different ages to cope with the effects of the pandemic and to mobilize social and physical activity.

Study Organization, Methods and Procedure

The sample consisted of 1,626 adolescents and young people from 22 regions of the Russian Federation aged 13 to 17. Of these, 5,515 are girls, 1,081 have disabilities and 6,354 children live in hard-to-live territories (Table 1).

All of the informants were educated in institutions of general secondary education.

The study was conducted in accordance with the ethical standards of the 1964 Helsinki Declaration.

The author's questionnaire [10], which included 78 questions, was modified to meet the needs of the study. A five-point Likert scale (from 'Strongly disagree' to 'Strongly agree') was used to assess the

Table 1

Description of the sample

Age	Gender	Quantity (N)	Disease occurrence (N)	Territories difficult for life		
				Arctic zone (N)	Hard-to-reach territories (N)	Environmentally polluted territories (N)
13	boy	1,070	109	156	86	154
	girl	1,167	125	172	96	168
14	boy	1,335	136	186	85	203
	girl	1,453	126	210	101	249
15	boy	1,347	150	246	134	232
	girl	1,384	111	212	92	277
16	boy	835	103	167	55	167
	girl	897	88	168	65	175
17	boy	522	77	95	31	131
	girl	616	56	165	51	158

Ослон В.Н., Прокопьева Л.М., Колесникова У.В. Активность образа жизни, субъективное здоровье
и субъективное благополучие детей старшего подросткового и юношеского возраста...
Психологическая наука и образование. 2022. Т. 27. № 6

SW indicators. A test of the internal validity of the questionnaire showed a high level of internal consistency ($\alpha k = 0.937$). The distribution did not differ from normal (one-sample Kolmogorov-Smirnov test). The distribution of SAT, the scales of the questionnaire "Activity and subjective health", "Comfort of the educational environment" did not differ from normal (Kolmogorov-Smirnov single-sample criterion $p < 0.05$ and $p < 0.01$).

The results of the study were processed using the software products such as SPSS Statistics 17.0. and Jamovi 2.3.21.0.

Results

The conducted correlation analysis using the Pearson coefficient revealed a significant relationship between the combined SAT score and the scales of the questionnaire "Activity and subjective health"($r=0.382$**), "Comfort of the educational environment" ($r=0.422$**) at the level of significance $p <0.01$.

Differences in group averages by age are confirmed by the results of a one-factor analysis of variance. The value of the Fisher criterion statistics on the scale of Comfort of the educational environment ($F_{4, 4470}=3.94$, $p=0.003$, $\eta^2=0.06$), on the scale of Activity and subjective health ($F_{4, 4448}=2.60$, $p=0.034$, $\eta^2=0.02$).

According to the Comfort scale, satisfaction ratings are wave-like: they decrease at the beginning of the puberty crisis at 13 years old and at the end of the youth crisis at 17 years old.

The results of pairwise comparisons of the average values on the Comfort of the educational environment scale (according to the Tukey criterion) showed that the average difference in the subsample of 13 years significantly differs from all other subsamples ($p < 0.05$).

On the scale of activity and subjective health, another trend is found: the maximum value is at 13 years old, and the minimum — at 17 years old. Between the ages of 13 and 17, the curve is undulating. The results of pairwise comparisons of the average values on the activity and subjective health scale showed that the average
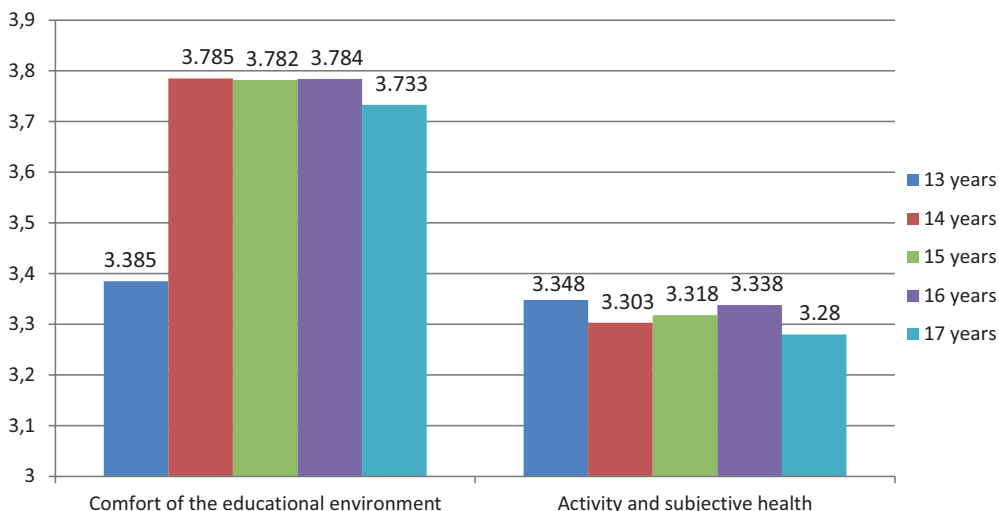

Fig. 1. Ratio of average values on the "Comfort of the educational environment" and "Activity and subjective health" among informants in age dynamics

Oslon V.N., Prokopeva L.M., Kolesnikova U.V. Relationship of Lifestyle Activity, Subjective Health
and Subjective Well-Being of Adolescent Children in the Russia
Psychological Science and Education. 2022. Vol. 27, no. 6

difference in the subgroups does not differ significantly.

Comparison of indicators of the scales "Activity and subjective health", and "Comfort of the educational environment" by gender showed that boys, unlike girls, have higher scores on both scales.

It draws attention to the fact that young men have a higher average score of satisfaction with "Comfort of the educational environment" at 16, and a lower one at 17 (before graduating from high school). This is observed at the age of 14 and 15 for a year and before the end of the 9th grade. For girls, the peak of satisfaction with "Comfort of the educational environment" takes place at 13 years old, and the peak of dissatisfaction is at 17 years old (Table 2).

Differences in indicators on the scale of "Comfort of the educational environment" among boys and girls are significant in all age groups. However, in the subgroup of 13-year-olds, the smallest effect of the difference is observed, and in the subgroup of 16-year-olds the greatest.

According to the "Activity" scale, the trends are repeated, i.e., exam stress reduces satisfaction with the comfort of the educational environment, as well as activity and subjective health. Age trends do not differ by factor. The rise in the value of the factor takes place at 16 years old, i.e., girls, unlike boys, have increased activity in a situation of exam stress (Table 3).

According to the "Activity and subjective health" scale, there are significant differences by gender in the subgroup of 14, 15, 16-year-olds. However, boys have higher scores on both scales than girls (Table 4).

Estimates of informants with disabilities of different ages on the "Comfort of the educational environment" scale did not show significant differences with the same indicator in conditionally healthy (Table 5).

Significant differences were achieved on the "Activity" scale in all age groups of conditionally healthy and informants with disabilities, while the effect size is low (Table 6).

If instability in the assessments of their "Activity and subjective health" is observed in the group of conditionally healthy adolescents of different ages, then in adolescents with disabilities these estimates decrease every year (Table 6). In the group of conditionally healthy, the maximum scores on the scale are reached at 13 years old, and the minimum at 17. Adolescents with dis-

Table 2

Comparison of average values on the scale of "Comfort of the educational environment" by gender

Age	Gender	Mean	t-Student	df	p	Effect Size Kaen d
13	boy	3.886 (0.69)	3.20[a]	2235	0.001	0.1356
	girl	3.789 (0.74)				
14	boy	3.905 (0.66)	8.33[a]	2786	<0.001	0.316
	girl	3.675 (0.78)				
15	boy	3.882 (0.68)	7.08[a]	2729	<0.001	0.271
	girl	2.686 (0.75)				
16	boy	3.923 (0.72)	7.47[a]	1730	<0.001	0.359
	girl	3.655 (0.76)				
17	boy	3.856 (0.71)	5.10[a]	1136	<0.001	0.3036
	girl	0.369 (0.77)				

* The Levene criterion is significant (p < 0.05), which indicates a violation of the assumption of equal variances.

Ослон В.Н., Прокопьева Л.М., Колесникова У.В. Активность образа жизни, субъективное здоровье
и субъективное благополучие детей старшего подросткового и юношеского возраста...
Психологическая наука и образование. 2022. Т. 27. № 6

Table 3

Comparison of average values
on the "Activity and subjective health" scale by gender

Age	Gender	Mean	t-Student	df	p	Effect Size Kaen d
13	boy	3,.67 (0.66)	1.36	2235	0.174	0.0575
	girl	3.328 (0.68)				
14	boy	3.357 (0.67)	4.17	2786	<0.001	0.158
	girl	3.248 (0.69)				
15	boy	3.363 (0.67)	3.50	2729	<0.001	0.134
	girl	3.273 (0.68)				
16	boy	3.405 (0.68)	3.95	1730	<0.001	0.190
	girl	3.271 (0.72)				
17	boy	3.367 (0.75)	1.57	1136	0.117	0.0934
	girl	3328 (0.72)				

Table 4

Comparison of average values by factors
of "Comfort of the educational environment", and "Activity and subjective health"

Age	Gender	Comfort of the learning environment		Activity and subjective health	
		Average score	Standard deviation	Average score	Standard deviation
13	boy	3.886	0.69	3.367	0.66
	girl	3.789	0.74	3.328	0.68
14	boy	3.905	0.66	3.357	0.67
	girl	3.675	0.78	3.248	0.69
15	boy	3.882	0.68	3.363	0.67
	girl	3.686	0.75	3.273	0.68
16	boy	3.923	0.72	3.405	0.68
	girl	3.655	0.76	3.271	0.72
17	boy	3.856	0.71	3.367	0.75
	girl	3.629	0.77	3.328	0.72

abilities rate their activity significantly lower regardless of age.

A comparative analysis between the groups living in 'normotypical' and 'difficult to live in' territories revealed significant differences between the age groups on the 'Comfort' scale ($F_{3, 1322}$=77.2 p<0.001). On the 'Activity' scale, significant differences were achieved between the individual age groups ($F_{3, 1322}$=21.8 p<0.001). Results of pairwise comparisons of average values as on the scale of "Comfort of the educational environment" (according to the Tukey criterion). Similarly, on the scale of Activity and subjective health, it was shown that the difference in the groups significantly differs (p < 0.001).

On the "Comfort" scale (Figure 2), scores are higher for informants living in 'normotypical' areas, regardless of age. Informants living in the Arctic zone and hard-to-reach territories were the least satisfied ($F_{3, 114}$=2.92 p=0.024, η^2=0.034). Satisfaction with 'Comfort' (excluding hard-to-reach territories) peaks at the age of 13 and has the lowest scores at the age of 17. Estimates of 13-year-olds living in hard-to-reach territories have mul-

Oslon V.N., Prokopeva L.M., Kolesnikova U.V. Relationship of Lifestyle Activity, Subjective Health
and Subjective Well-Being of Adolescent Children in the Russia
Psychological Science and Education. 2022. Vol. 27, no. 6

Table 5

Comparison of average values on the scale of "Comfort of the educational environment" by the presence of HIA

Age	Availability of HIA	Mean	t-Student	df	p	Effect Size Kaen d
13	Yes	3.768 (0.79)	1.60	21.63	0.109	0.111
	No	3,.849 (0.71)				
14	Yes	3.758 (0.77)	0.614	2673	0.539	0.0400
	No	3.788 (0.73)				
15	Yes	3.752 (0.83)	0.752[a]	26.12	0.452	0.0491
	No	3.787 (0.71)				
16	Yes	3.705 (0.79)	1.52	1650	0.128	0.117
	No	3.794 (0.75)				
17	Yes	3.620 (0.86)	1.77[a]	1077	0.076	0.164
	No	3.746 (0.74)				

* The Levene criterion is significant ($p < 0.05$), which indicates a violation of the assumption of equal variances.

Table 6

Comparison of average values on the scale of "Activity and subjective health" by the presence of HIA

Age	Availability of HIA	Mean	t-Student	df	p	Effect Size Kaen d
13	Yes	3.243 (0.61)	2.58[a]	2163	0.010	0.179
	No	3.363 (0.68)				
14	Yes	3.206 (0.66)	2.371	2673	0.018	0.1542
	No	3.312 (0.69)				
15	Yes	3.198 (0.68)	3.069	2612	0.002	0.2002
	No	3.333 (0.67)				
16	Yes	3.189 (0.70)	3.13	1650	0.002	0.241
	No	3.359 (0.71)				
17	Yes	3.135 (0.75)	2.37	1077	0.018	0219
	No	3296 (069)				

tidirectional trends compared to normo-typical ones. On the 'hard-to-reach' ones, they are the lowest, on the rest they are the highest. In general, informants living in 'hard-to-live' territories, regardless of their age, rated their activity and subjective health lower (Figure 2). The lowest scores are in environmentally polluted territories, and the highest scores are in 'hard-to-reach' ones.

Scores on the 'Activity' scale within the Arctic zone itself differ significantly between respondents of different ages.

In environmentally polluted territories, the differences in the estimates are also significant ($F_{3, 114}=2.72$ p=0.033, $\eta^2=0.03$). The lowest scores were given by 14- and 17-year-old informants from the Arctic zone and polluted territories. Scores of informants of different ages from hard-to-reach territories do not differ ($F_{3, 766}=4.78$, p<0.001, $\eta^2=0.06$) (Figure 3).

Girls rate their satisfaction with the educational environment's comfort lower than boys (Figure 4). The Arctic zone stands out, where girls' scores are the lowest and
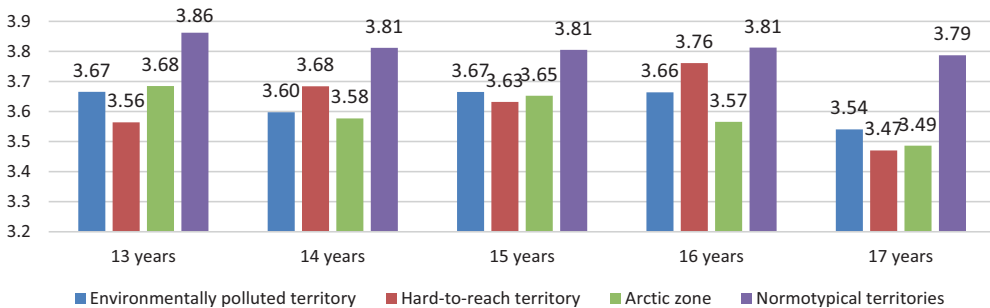
Fig. 2. Ratio of mean values of the 'Comfort' scale in age dynamics among informants living in different territories

boys' scores are higher than in other territories ($t_{1104}=4.39$ p<0.001 d=0.264). There is also a significant difference in the assessment of satisfaction with the comfort of the educational environment among boys and girls living in ecologically disadvantaged areas ($t_{1692}=4.39$ p<0.001 d=0,.289).

A comparative analysis of boys' and girls' scores on the 'Activity' scale confirmed the general tendency for girls to have lower average values. Environmentally disadvantaged territories in particular stand out ($t_{1692}=3.82$ p<0.001 d=0.187). In hard-to-reach territories, both boys and girls consider themselves to be more active and healthier (Figure 5).

In general, girls living in hard-to-live territories scored lower than boys on the 'Activity' and 'Comfort' scales. The Arctic zone and environmentally disadvantaged
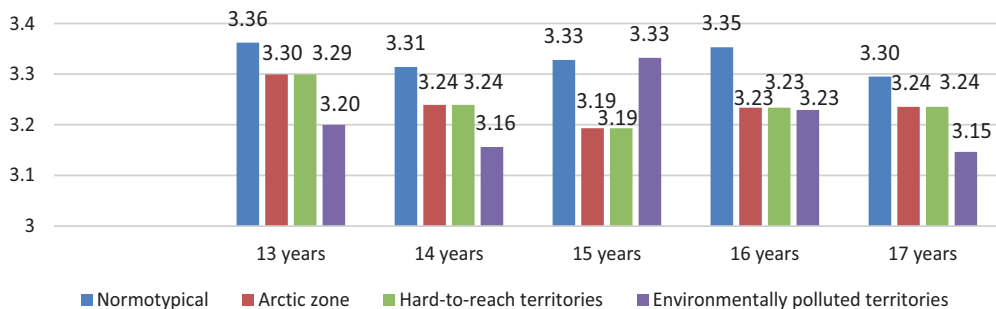
Fig. 3. Scores of informants of different age groups on the 'Activity' scale according to the territory of residence
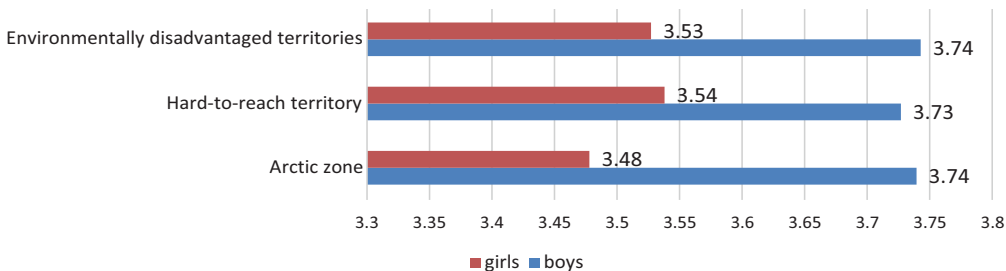
Fig. 4. Satisfaction scores of boys and girls with 'Comfort' according to the territory

Oslon V.N., Prokopeva L.M., Kolesnikova U.V. Relationship of Lifestyle Activity, Subjective Health
and Subjective Well-Being of Adolescent Children in the Russia
Psychological Science and Education. 2022. Vol. 27, no. 6
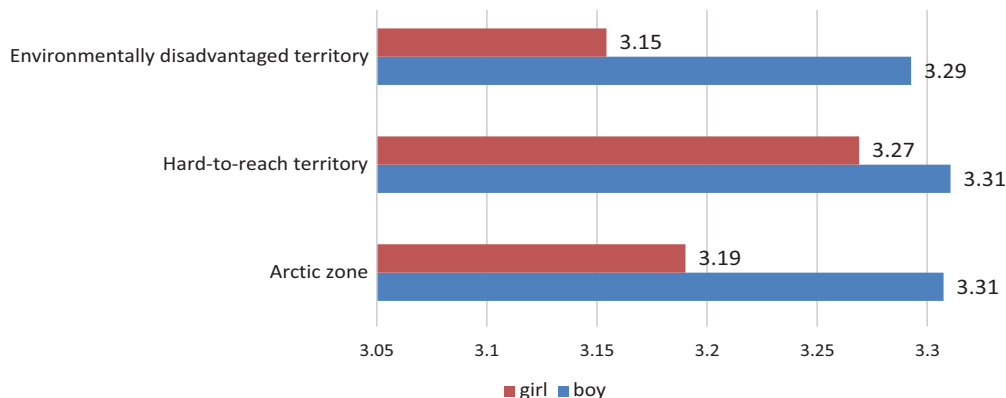
Fig. 5. Informants' scores on the 'Activity' satisfaction scale for different genders by territory

territories stand out, where the values on the scales are the lowest for girls.

Results Discussion

The study presents new empirical data on lifestyle activities, subjective health, and subjective well-being of older adolescents and young adults in the Russian Federation according to age, gender, disability, and territory of residence.

It is shown that informants are aware of their lifestyle activity and assess subjective health as a psychological condition of general activity and success in the social and physical spheres, as well as of the educational environment's comfort. They are more satisfied with the educational environment's comfort than with their own activity and subjective health. The identified assessments of activity, subjective health, and the educational environment's comfort are correlated with age, gender, disability or impairment, and the territory of residence.

It is noteworthy that satisfaction scores on these indicators correlate with the beginning and/or end of the adolescent and youthful crises. At the end of the crisis periods, the need for general activation increases to achieve SW, and at the end of adolescence and the beginning of the

youthful crisis, the need to resolve relationships in the educational environment increases.

At the end of puberty, young boys still feel active and healthy, but by the end of the adolescent crisis, they are exhausted. In boys, the decline correlates with exam stress during the BSE and USE periods. Girls are less vulnerable to this stress (their activity self-assessment and subjective health increases). And regardless of their age, and territory of residence, they rate their activity and comfort level significantly lower.

Informants with disabilities have lower assessments of their activity and subjective health with age: awareness of their limitations increases with age.

In hard-to-live territories, assessments of activity and health as well as the educational environment's comfort are considerably lower. The most problematic areas are the Arctic zone and environmentally polluted territories.

Conclusion

The study describes new empirical data on the subjective well-being of adolescents and young adults aged 13—17 (a sample of over 10,000 respondents from 22 regions of the Russian Federation). Particular

Ослон В.Н., Прокопьева Л.М., Колесникова У.В. Активность образа жизни, субъективное здоровье
и субъективное благополучие детей старшего подросткового и юношеского возраста...
Психологическая наука и образование. 2022. Т. 27. № 6

emphasis is placed on the components of SW: lifestyle activity, subjective health, and the educational environment's comfort. According to statistics from the Ministry of Health and the Ministry of Sport, the activity of children of various ages has been negatively affected by the pandemic and has not recovered at present. Activity appeared to be closely related to satisfaction with the educational environment's comfort.

The analysis of subjvetive assessments of the identified SW components led to the following conclusions:

1. The Informants have significantly reduced satisfaction with lifestyle activity and subjective health;

2. The main fluctuations in estimates of satisfaction with their activity, subjective health, and comfort relate to the initial and/ or final stages of the age crises;

3. Girls, as compared to boys, regardless of age, territory of residence, and presence of disabilities, rate their satisfaction lower on all indicators. In doing so, they show greater psychological resilience in relation to exam stress and graduation;

4. Informants with disabilities feel just as comfortable in an educational organization as conditionally healthy children. At the same time, they are becoming more aware of their activity and health limitations with each passing year;

5. In the hard-to-live territories, all satisfaction scores for the analyzed components are lower than for the normotypical ones.

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Психологическая наука и образование. 2022. Т. 27. № 6

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Psychological Science and Education. 2022. Vol. 27, no. 6

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The Relationship Between the Level and Structure of Subjective Well-Being in High School Students

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The article presents the study of the structure of subjective well-being (SWB) of senior schoolchildren, taking into account the actual and real level of its indicators and factors. 3282 students of grades 7—11 of the Tyumen region were interviewed. The author's questionnaire was used as a tool in the study, built on the basis of the of The International Survey of Children's Well-Being (ISCWeB) — Children's World is taken as a basis. High school students assessed how important a specific SWB indicator (actual level) and its severity (real level) are for them. Factor analysis allowed us to determine the following structure of the SWB: family, school, agency, status, social loyalty, security and romantic relationships. Two-stage cluster analysis in the space of selected factors allowed dividing schoolchildren into 3 cluster groups, homogeneous with respect to the phenomenon under consideration: Romantics, Conformists, Rebels. The analysis of the weighting coefficients of the actual and real level of SWB in all three groups showed that those who have the structure of all factors of SWB harmoniously correlated are more satisfied and prosperous — Romantics, a low level of SWB is noted in Rebels.

Keywords: subjective well-being of high school students, indicators of well-being, the structure of the SWB, the actual level of the SWB, the real level of the SWB, balance.

Bruk Zh.Yu., Fedina L.V., Volosnikova L.M., Patrusheva I.V., Kukuev E.A.
The Relationship Between the Level and Structure of Subjective Well-Being in High School Students
Psychological Science and Education. 2022. Vol. 27, no. 6

Связь уровня и структуры субъективного благополучия у старших школьников

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В статье представлено исследование структуры субъективного благополучия (далее — СБ) старших школьников с учетом актуального и реального уровня его индикаторов и факторов. Опрошено 3282 учащихся 7—11-ых классов Тюменской области. В качестве инструментария в исследовании использован авторский опросник, построенный на базе опросника международного исследовательского проекта по изучению СБ детей — Children's World. Старшеклассники оценивали, насколько для них важен конкретный индикатор СБ (актуальный уровень) и его выраженность (реальный уровень). Факторный анализ позволил определить следующую структуру СБ: семья, школа, агентность, статусность, социальная лояльность, защищенность и романтические отношения. Двухэтапный кластерный анализ в пространстве выделенных факторов дал возможность разделить школьников на 3 кластерные группы, однородные по отношению к рассматриваемому явлению: Романтики, Конформисты, Бунтари. Анализ весовых коэффициентов актуального и реального уровня СБ во всех трех группах показал, что более удовлетворенными и благополучными являются те, у кого структура всех факторов СБ гармонично соотнесена — Романтики, низкий уровень СБ отмечен у Бунтарей.

131

Ключевые слова: субъективное благополучие старших школьников, индикаторы благополучия, структура СБ, актуальный уровень СБ, реальный уровень СБ, баланс.

Introduction

Research on child subjective well-being (hereafter referred to as SWB) has advanced as a result of the development of childhood theory, the adoption of the Declaration of the Rights of the Child, and the transition to positive psychology. It was initiated by the Child Indicators movement [21] and Large-scale SWB studies, such as Children's Worlds [22; 36], the United Nations Children's Foundation (UNICEF), and PISA (https://www.oecd.org/PISA/, Programme for International Student Assessment), etc. SWB questions are included in global surveys such as the World Values Survey, the European Values Survey, Eurobaromeand ter, Gallup World Poll [19]. These studies have provided an empirical basis for understanding children's SWB. A growing body of research indicates children's ability to reflect on their lives as a whole, and to identify and differentiate their SWB. The interest in the study of SWB of children in modern science is very high. In the international Scopus database, a search for the keywords "subjective well-being" and "children" yields 4,541 publications, of which 2 391 have been published in the last 5 years. A similar trend is observed in the Russian scientific electronic library eLibrary. The SWB of schoolchildren is regarded as a significant factor of their quality of life, health, personal development, academic performance, and success, and therefore, the quality of their future life [20; 37]. International organizations define pupils' SWB as a fundamental indicator of the quality of education. However, researchers with certain anxiety note the decrease in the level of SWB in schoolchildren during the last three years [7; 12]. For more than 30 years, the model of SWB that distinguishes between the affective and cognitive components has dominated the study of SWB [5; 19; 24; 25]. This approach is based on the eudemonic understanding of SWB, A. Maslow's pyramid of needs, in which, first of all, the existential, rather than deficit (basic) human needs predetermine ways of achieving happiness [1; 10; 11]. At the beginning of the 21st century with the development of positive psychology [16], researchers proposed to complement life satisfaction with such a parameter as harmony in life [30]. Harmony differs from life satisfaction in that it includes the behavior and perceptions of a person who is in harmony or striving for equilibrium with the surrounding world [28; 30]. Within the framework of this study, the authors understand SWB not only as life satisfaction but also as harmony and balance of its constituent factors.

Issues related to the instrument of measurement are one of the foci of discussion. In the English-language literature, the three most popular instruments for measuring subjective well-being are PANAS, SWBLS, and Harmony in Life Scale (HILS) [13; 15; 17; 24; 34; 38]. The theoretical basis of the PANAS scale is the hierarchical model of emotions [38], the upper level of which contains two factors, corresponding to two signs of Valence of emotions (positive and negative), and the lower level includes the factors, corresponding to the different contents of emotions (in Russia it is adapted and validated by D.A. Leontiev and E.N. Osin in 2003). The Satisfac-

Bruk Zh.Yu., Fedina L.V., Volosnikova L.M., Patrusheva I.V., Kukuev E.A.
The Relationship Between the Level and Structure of Subjective Well-Being in High School Students
Psychological Science and Education. 2022. Vol. 27, no. 6

tion With Life Scale (SWBLS) of Diener and Pavot has been developed as an alternative to the PANAS, and is designed for mass surveys of respondents about their satisfaction with life in general. The Harmony in Life Scale assesses the subjective person's perception of harmony in life [30].

Researchers from the International Survey of Children's Well-being (ISCWeB) (http://www.isciweb.org/) from more than 40 countries have been studying children's SWB, calling first and foremost for the voices of children around the world to be heard [22; 23; 36;]. Early studies of children's SWB used the scales borrowed from the versions for adults. However, there has been rapid progress in this area. T.O. Archakova et al. have described five questionnaires used for research on children's SWB: The Multidimensional Students' Life Satisfaction Scale (MSLSS); Brief Multidimensional Students' Life Satisfaction Scale (BMSLSS); Personal Well-Being Index (PWI); KINDL-R; TedQL, available for children of 3—4 years old [2]. T.O. Archakova and co-authors, investigating the age dynamics of SWB, also suggest a balance between subjective and objective metrics of well-being [3]. The researchers describe a methodology for assessing SWB based on the new methodology for assessing SWB, which is to study the degree of Satisfaction of the child with the system of their attitude towards themselves, others, the environment, and their chronotope [14].

The SWB of high school students has been studied to a lesser extent. Adolescence is an intense period of development, and the difficulties encountered at this time have important implications for adult life [9]. It is important to investigate the structure of SWB in order to identify and describe the factors and their correlation, which allows to create conditions for adequate support for adolescents [8].

Methods

Research objective: to study the structure of SWB by comparing the actual and real level of its assessment by high school students.

Research Questions: What is the structure of high school students' SWB from the perspective of two dimensions: how important is it to them and how expressed is it in their lives? Is there a relationship between the level and structure of subjective well-being in high school students?

Design. The empirical study was conducted in schools in the cities of Tyumen, Ishim, Tobolsk, Zavodoukovsk, and Yalutorovsk, as well as Tyumen, Ishim, Zavodoukovsk, Tobolsk, and Yalutorovsk districts.

Procedure. The study was conducted in the classroom, with prior parental consent. The survey took between 20 and 30 minutes. The permission to conduct the study was obtained from the Department of Education and Science of the Tyumen region. The data collection took place in April and May 2022.

Sample. The empirical basis of the study was provided by the data obtained through a survey of 3,282 students in grades 7 to 11. Distribution by grade (number of respondents / percentage of the total number) was as follows: 7th graders — 895/ 27.3%; 8th graders — 973/ 29.6%; 9th graders — 372/ 11.3%; 10th graders — 710/ 21.6%; 11th graders — 332/ 10.1%. The gender distribution of the sample reflects a typical proportion: 56.5% of respondents were girls and 43.5% were boys.

The survey of pupils' SWB was conducted with the help of the authors' questionnaire which was based on the questionnaire of the international research project on the study of children's SWB — Children's World (Access mode: https://isciweb.org/the-questionnaire/) [4].

The data analysis conducted in the research consisted of such stages as the adaptation of the constituent parts of the questionnaire and the exploratory analysis conducted in order to identify common dependencies and patterns of the phenomenon in question. The adaptation of the questionnaire included an analysis of its factor structure and the suitability of the SWB indicators, in terms of the internal consistency of individual factors.

The questionnaire includes 47 indicators reflecting the actual (how important) and real

Брук Ж.Ю., Федина Л.В., Волосникова Л.М., Патрушева И.В., Кукуев Е.А.
Связь уровня и структуры субъективного благополучия у старших школьников
Психологическая наука и образование. 2022. Т. 27. № 6

(how expressed) levels of SWB, which were evaluated on a 5-point Likert scale. The statements in the two parts of the questionnaire are identical in their semantic content but differ in their wording. The proposed model of the survey makes it possible to determine the actual and real assessments of the SWB of high school students and to see the structure of the SWB as a whole by comparing the weight coefficients of evaluation.

In order to reduce the dimensions of space of the indicators of the actual level, exploratory factor analysis was performed, which revealed an 8-factor structure of the phenomenon in question. Sample adequacy measure KMO=0.962. The results of the KMO test allow us to conclude about the general suitability of the available data for factor analysis, i.e. how well the constructed factor model describes the structure of respondents' answers to the analyzed questions. In our case, this indicator is a very good result and points to the appropriateness of factor analysis.

The total percentage of variance explained by the selected factors is 58%. The total variance of all variables is the sum of the unit variance of all traits, which is simply the number of traits. Summing up the fractions of the variance of all variables for one factor, we obtain the total variance of all variables due to the effect of this factor. By dividing the total variance due to a given factor by the number of traits, we obtain the proportion of variance due to a given factor, or the informative value (power) of the factor.

Factor #1, Family, characterizes students' satisfaction with family and relationship with relatives and other close people and is represented by indicators with high factor loadings: confidence that parents will always understand, support and protect you (0.812), having family support in any life situations (0.786), belief of parents in your abilities and your life potential (0.778). The power of the factor 11.71%.

Factor# 2, School, reflects respondents' satisfaction with school life, primarily with the knowledge they receive (ability to get good subject knowledge at school, 0.704) and the level of teachers' competence (having good teachers who give real knowledge, 0.610). The power of the factor 10.93%.

Factor # 3, Agency, included the following indicators: to be able to step out of your comfort zone and take risks when necessary (0.695), to have freedom in making decisions about your life (0.607), to be able to make mistakes without fear of parental judgment (0.607), to have independence from the opinion of others about yourself (0.424). The factor explains 8% of the total variance.

Factor # 4, Status, describes the material satisfaction of high school students (have better (at least not worse than others) gadgets and clothes, 0.766) and authority among peers (have authority with their classmates, 0.519; have many friends and subscribers in social networks, 0.678). The factor explains 6.98% of the total variance.

Factor #5, Social Loyalty, reflects a correct attitude in interaction with society and individuals and is represented by indicators: to do good deeds, to volunteer, to do charity, 0.676; to be optimistic in all situations, to believe in the future, 0.506; to meet the expectations and wishes of parents, 0.416. The factor explains 6.64% of the total variance.

Factor #6, Protectiveness (Security), comprised indicators that were responsible for students' psychological and physical safety (to be protected from psychological and physical violence at school, 0.705; to have the right to be treated fairly at school, 0.675; to be able to express and defend one's opinions without fear, 0.644). The factor explains 6.06% of the total variance.

Factor #7, Health, combined indicators related to a healthy lifestyle (lead a healthy lifestyle (not smoking, not drinking alcohol, eating healthy, etc., 0.514; have a good appearance (have no problems with skin, weight, etc.), 0.603). The factor explains 3.82% of the total variance.

The indicators of feeling in love (0.844) and being in a romantic relationship (0.840), which were included in Factor #8 (Romance), explain 3.81% of the total variance.

The main criterion for a good factor structure is the possibility of meaningful interpreta-

Bruk Zh.Yu., Fedina L.V., Volosnikova L.M., Patrusheva I.V., Kukuev E.A.
The Relationship Between the Level and Structure of Subjective Well-Being in High School Students
Psychological Science and Education. 2022. Vol. 27, no. 6

tion of each factor by two or more original variables. If the researcher additionally faces the problem of justifying the stability of the factor structure in the general population, then the requirement of unambiguous correlation of each variable with one of the factors is added. This requirement means that each variable has a large absolute value load (0.7 or higher) only for one factor and a small load (0.2 or less) for all other factors. In the case under consideration this requirement is satisfied.

The reliability of the questionnaire scales was checked for internal consistency by calculating α-Cronbach's coefficients. All factors (scales) showed sufficient internal consistency (α> 0.75). In addition, Cronbach's alpha coefficients were analyzed when each of the indicators was removed from the corresponding scale. The vast majority of items work well for the final scale, as the value of Cronbach's Alpha coefficient does not decrease when these items are removed, indicating a high coherence of the questionnaire indicators with the corresponding factors.

Results

In order to describe the structure of the SWB, a two-item evaluation by high school students of the identified factors was ana-

lyzed. The students were able to rate each indicator on a Likert scale in two ways by answering the questions: How important is this to you? and How much do you agree with the following statements? Thus, the results allow us to assess and compare among themselves the degree of importance for high school students of specific factors and the assessment of their expression in life (Fig.1).

To describe the structure of SWB, we analyzed two-position evaluation by high school students of the highlighted factors.

Actual level. Safety (psychological and physical) and agency turned out to be the most important for high school students. For high school students, it is important to be the master of their lives, have the right to make mistakes, make decisions concerning life without the fear of condemnation from their relatives. To enjoy life, believe in oneself, be autonomous is also necessary for SWB students as are acceptance, unconditional love, and support of relatives (factor Family — 4.42).

Real Level. The pupils' assessment of how the factors manifest themselves in their lives shows a similar picture: high school students are most satisfied with their family and relationships with relatives and friends, and
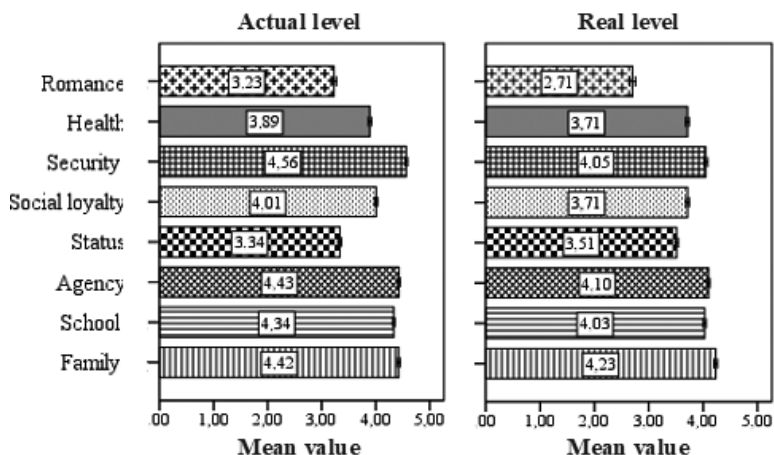
Fig. 1. Factor profiles of high school students highlighted in the space of SWB:
actual and real levels (mean values)

Брук Ж.Ю., Федина Л.В., Волосникова Л.М., Патрушева И.В., Кукуев Е.А.
Связь уровня и структуры субъективного благополучия у старших школьников
Психологическая наука и образование. 2022. Т. 27. № 6

consider themselves sufficiently independent, independent, and protected. These results correlate with other studies that have shown a relationship between feelings of safety at home, in the neighborhood, and children's safety [6; 4; 31; 33; 35].

In the system of evaluations of SWB by high school students, the actual level of factors is slightly higher than the real one.

Further, we considered the actual level as a weighting factor in taking into account the SWB of high school students. Two-stage cluster analysis in the space of the selected SWB factors allowed to distribute high school students into 3 cluster groups (Fig. 2). The two-step cluster analysis procedure is an exploratory analysis tool for identifying the natural partitioning of a data set into groups (or clusters), which is difficult to detect without its use. The algorithm used by this procedure has several attractive features that distinguish it from traditional cluster analysis methods: handling categorical and continuous variables, automatic selection of the number of clusters, and scalability.

High school students were distributed almost equally across the three cluster groups.

Students in the 8th grade (28 to 30%) and the 7th grade (23 to 28%) were the most numerous in each group. For objective reasons, graduate school students were less actively involved in the study: up to 10% of the 11th-graders and 10-12% of the 9th-graders were surveyed. Thus, in the age ratio, the formed cluster groups are quite homogeneous.

The first group, Romantics, comprised one-third of the sample, 1,080 people (33.8%). The most important factors in the structure of the SWB for these children are Romance (to feel in love, to be in a romantic relationship) and Status: the level of expression of these factors is much higher than the average for the general population. For Romantics, it is important to satisfy the needs that constitute material well-being: modern gadgets and things, and the number of subscribers in social networks (status). The other factors — family, school, agency, security, health, and social loyalty — are less significantly expressed in the structure of their SWB. At the same time, they are oriented toward social loyalty: only 12.69% — have difficulties in mastering subjects and have a level of achievement — below average.
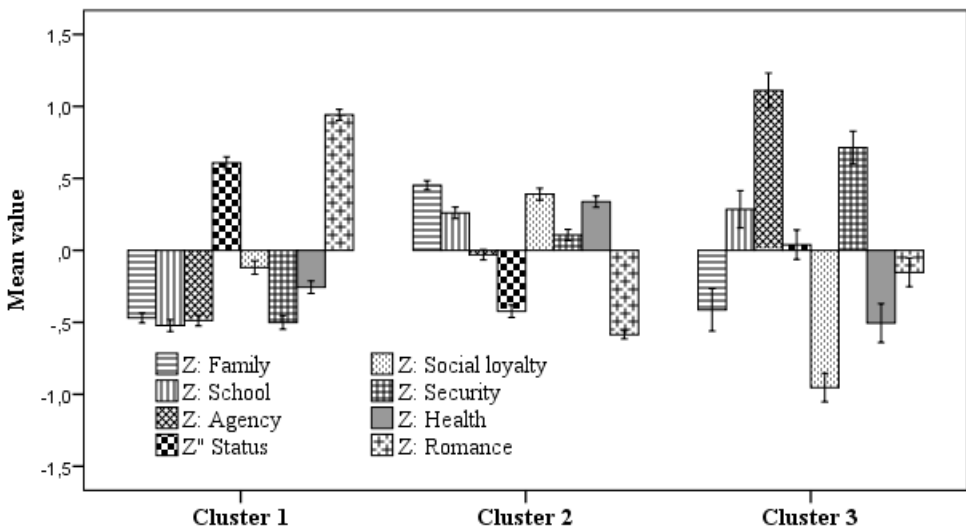
Fig. 2. Factor profiles of cluster groups determined by the contribution of different factors to the overall level of subjective well-being

Bruk Zh.Yu., Fedina L.V., Volosnikova L.M., Patrusheva I.V., Kukuev E.A.
The Relationship Between the Level and Structure of Subjective Well-Being in High School Students
Psychological Science and Education. 2022. Vol. 27, no. 6

Students in the second group, Conformists, are radically different from the first and are the most massive group, 1,598 people, or 50.0%. Status and romance are not important to them at all, they rated these factors lower than the average for the general population. The first place is taken by the well-being of the family, support, and love of relatives, good relations with relatives, the opportunity to please the family, to take care of relatives. The Conformists evaluated the components of satisfaction with school life, health, and social loyalty as slightly higher than the average for the general population. Obviously, they are more focused on stability, social approval, and generally accepted norms and values — I am what people want me to be. It is in this group that the maximum number of students with excellent academic performance is presented — 18.9%, and the minimum number of children with a level of achievement below average — 7.63%.

The representatives of the third group, Rebels (519 people, or 16.2%), have an interesting profile of SWB: from maximal evaluations of the factors of Agency and Security to minimal ones of the factor of Social Loyalty. The Rebels are prone to constant and bright manifestation of their position, expression of their personality, and assertion of their opinion. In order to achieve their goals, to realize their potential and plans, they are willing to engage in conflicts with others without striving for conformity. The Rebels believe in their own success, with little reference to the opinion of society. Judging by the fact that school is also on the list of important factors, self-actualization of these students is carried out, including in the educational institution. Nevertheless, this group has the maximum number of students with below-average achievement — 17.73%, and the minimum number of students with average achievement — 67.44. At the same time, for Rebels it is important to have a feeling of psychological and physical safety, they hope for a fair attitude towards themselves, even if they express an alternative opinion. Lower than the average for the general population, they estimate satisfaction with the family and their health; even the presence of romantic relationships is not significant for their SWB.

Contribution of each factor to the SWB in % of content, actual level

The representatives of the first (13.23) and second (16.16) cluster groups have the maximum weight in SWB of the Family factor — "we all come from childhood". The importance and contribution of well-being to family life is confirmed by numerous both domestic and foreign researchers [4; 18; 26; 29; 32].

The most balanced structure of SWB is demonstrated by the Romantics. The contribution of each factor is approximately equal: from 11.49 (Status) to 13.23 (Family). The structure of the SWB of the Conformists is characterized by a shift in the emphasis on the importance of the factors: the minimum specific weight has Romance (4.40%) and Status (8.21%). At the same time, the other factors are rated rather high: from 12.97 (Social Loyalty), 14.29 (Agency) to 16.16 (Family). Different priorities stand out in the structure of the SWB of the Rebels: the factors of Romanticism (6.68), Social Loyalty (9.52), and Status (9.68) have minimal specific weight. The contribution of other factors is estimated rather high, the maximum weight with a record figure of 17.47 for all three groups has Agency and Security (16.82).

The average level of subjective well-being of high school students in the three cluster groups

Comparison of weight coefficients of evaluations of the real and actual level of security components made it possible to determine the level of security in general for each cluster group. The final value was obtained by calculating the arithmetic mean of the real state of the indicators multiplied by the evaluation of their importance for the respondent. The total level of SWB is the result of summing up the levels of subjective well-being for all the factors. The highest level of SWB is demonstrated by the respondents of the first cluster, and the lowest by the third cluster (Fig. 3).

Брук Ж.Ю., Федина Л.В., Волосникова Л.М., Патрушева И.В., Кукуев Е.А.
Связь уровня и структуры субъективного благополучия у старших школьников
Психологическая наука и образование. 2022. Т. 27. № 6

The comparison of the weight coefficients of the assessments of the real and actual levels of the components of SWB allowed us to determine the level of SWB as a whole for each cluster group. The final value was obtained by calculating the arithmetic mean of the real state of the indicators multiplied by the evaluation of their importance for the respondent. The total level of SWB is the result of summing up the levels of subjective well-being for all the factors. The highest level of SWB is demonstrated by the respondents of the first cluster, and the lowest by the third cluster (Fig. 3).

The highest level of SWB is observed in the students of the first cluster group — the Romantics. The harmonious structure provides students in this group with the highest level of SWB, which correlates with the research of positive psychology [16], which states the highest importance of striving for balance with the surrounding world as a key factor of SWB [28; 30]. The higher level of SWB in this group can also be explained by natural mechanisms of ego-identity formation for the given age, which are chosen by schoolchildren in this group. The Romantic relationships, falling in love for older adolescents is the definition of their own identity via the other one, as a relationship with themselves via the other one [27].

Shifting the orientations in favor of internal or external factors in the process of finding oneself makes the process of ego-identity difficult and makes the passage of adolescence and early adolescence subjectively and emotionally difficult.

Conformists demonstrate a fairly high level of SWB, with all factors except Romance and Status rated highly. Nevertheless, an excessive focus on social approval, and the opinion of others, perhaps sometimes to the detriment of themselves, makes these students slightly less well-off than the Romantics. Trying to understand themselves, to find their identity through the norms and rules of society.

The Rebels have a much lower specific weight of all factors and an overall level of SWB than the Romantics and the Conformists. The Rebels are ready to express their hypertrophied agency in a safe society. Excessive self-orientation without an attempt to integrate into society, without regard for social norms as well as excessive self-demonstrations do not make these students happy.

Conclusion

The results of the study allow us to conclude that SWB is in the focus of child psychology all over the world and is considered
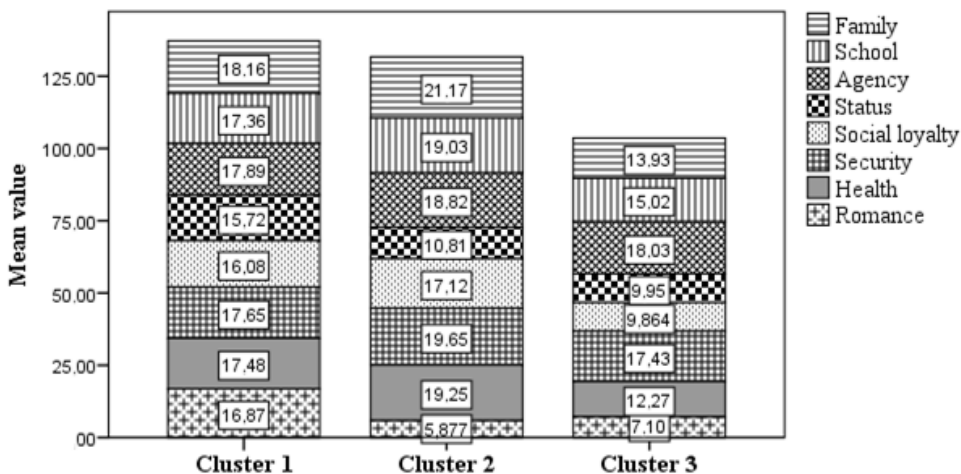

Fig. 3. Average level of subjective well-being of respondents in different cluster groups

Bruk Zh.Yu., Fedina L.V., Volosnikova L.M., Patrusheva I.V., Kukuev E.A.
The Relationship Between the Level and Structure of Subjective Well-Being in High School Students
Psychological Science and Education. 2022. Vol. 27, no. 6

as the most important indicator of children's quality of life. The analysis of evaluation of the actual and real level of SWB by high school students allowed us to distinguish between three clusters: romantics, conformists, and rebels, and to analyze the structure of their SWB. The present study proves once again that there is no universal formula for well-being. Thus, one group of schoolchildren needs only romantic relationships and peer recognition to be happy; for others, social approval, family, and public recognition are important; for another group, presenting themselves to the world as much as possible is fundamental. Researchers study the structure of children's SWB in search of factors and predictors that are maximally significant for happiness. Innovative from the point of view of measurements in the present study is the allocation of a separate focus — the actual level along with the real level in evaluations of SWB by high school students. The analysis of the weight coefficients of the actual and real level of SWB in all three groups has shown that those whose structure of all SWB factors is harmoniously correlated are more satisfied and prosperous. In this sense, those who are able to maintain balance, are happier.

The reliance on quantitative methodology, which does not allow "hearing the voices of children" to the fullest extent, can be considered a limitation of this study. Supplementing the study with qualitative methods (interviews, focus groups, content analysis) will significantly expand the understanding of the SWB of high school students.

The prospects for this work include refining the instruments of the SWB study, reducing the indicators with low discriminant power, and optimizing the questionnaire, especially for 7th graders who did not find the study easy. Cross-regional research will allow for a more accurate understanding and description of the SWB structure of high school students.

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Связь уровня и структуры субъективного благополучия у старших школьников
Психологическая наука и образование. 2022. Т. 27. № 6

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Связь уровня и структуры субъективного благополучия у старших школьников
Психологическая наука и образование. 2022. Т. 27. № 6

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The Relationship Between the Level and Structure of Subjective Well-Being in High School Students
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Rehabilitation Potential of Socio-psychological Support for Families with Alcohol or Drug Addiction Problems

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The rehabilitation potential of socio-psychological maintenance for families with problems of chemical addictions is proposed here to be considered as a resource for overcoming real addictions. The relevance of this study is due to actual need for developing a basic approach — the strong scientific evidence-based substantiation of the organization of psychological assistance to concrete family with problems of alcohol and/or drug addiction ones. The simultaneous existence of such problem of addictive behavior and personality deformation under global influence of psychoactive substances use, together with the phenomenon of co-dependent behavior, was shown here. As a result, the entire family system suffers, and patterns of negative behavior are formed among all other family members. The need for namely comprehensive consideration of this family problem is confirmed. As the author's experience, the effectiveness of maintenance-working with families with alcohol addiction in the ANO "Center for Social and Psychological Support of People with Alcohol, Drug and Other Types of Addiction "Goal" (Moscow) is considered here.

Keywords: alcohol addiction; drug addiction, addiction within family, codependence within family, socio-psychological maintenance of problem family.

144

Bartsalkina V.V., Moiseev O.O., Tretyak E.V., Hromysheva E.V.
Rehabilitation Potential of Socio-psychological Support for Families with Alcohol or Drug Addiction Problems
Psychological Science and Education. 2022. Vol. 27, no. 6

Реабилитационный потенциал социально-психологического сопровождения семей с проблемами алкогольной или наркотической зависимости

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Реабилитационный потенциал социально-психологического сопровождения семей с проблемами химической зависимости предлагается рассматривать как ресурс преодоления аддикций. Актуальность исследования обусловлена необходимостью разработки базового подхода — научно-доказательного обоснования организации психологической помощи семье с проблемой алкогольной и/или наркотической зависимости. Показано одновременное существование проблемы аддиктивного поведения и деформации личности под влиянием употребления психоактивных веществ с феноменом созависимого поведения. В результате страдает вся семейная система, формируются паттерны негативного поведения у остальных членов семьи. Подтверждена необходимость комплексного рассмотрения указанной проблемы семьи. В качестве авторского опыта рассмотрена результативность работы с семьями с алкогольной зависимостью в АНО «Центр социально-психологического сопровождения людей, страдающих алкогольной, наркотической и другими видами зависимости «Цель» (г. Москва).

Ключевые слова: алкогольная зависимость, наркотическая зависимость, зависимость в семье, созависимость в семье, социально-психологическое сопровождение проблемной семьи.

Introduction

The problem of socio-psychological support for families for whom the issue of overcoming drug or alcohol addiction is extreme acute, is still relevant today. It fits into the context of studying the family rehabilitation potential, as a real resource for overcoming chemical addictions, and, on the other hand, forms its basis.

The relevance of this concrete problem is due, firstly, to the fact that in recent years Russia has again seems an increase in a number of registered drug and alcohol addicts. According to official data from the "Healthy Russia" organization, and from the Ministry of Internal Affairs and Ministry of Health Care, — about 459 thousand drug addicts were registered only in 2021. Official statistics are recognized as underestimated, so it is now extremely difficult to assess real involvement into drug addiction. Some users seek help anonymously, while others do not seek help at all [7].

At the same time, the "Abstinent Russia" organization voices some data about 5 million people who use drugs.

As for alcohol addiction, according to the World Health Organization (WHO) 2018 database, 27% of Russians over the age of 15 have never consumed alcohol, and 15% have given up drinking it. The remaining 58% (about 70 million individuals) consume alcoholic beverages at least once a year, while 60% of drinkers, or 42.7 million people, are subject to "severe episodic drunkenness". The World Health Organization has revised the meaning of the term "alcoholism". To date, it is listed as a "dependency syndrome" in the classifier, accompanied by serious mental disorders of the personality and entailing behavioral changes. According to the WHO, the consumption of carbonated beverages is growing exponentially. By 2050, there will be about 0.5 billion addicts worldwide [12].

Taken together, this suggests that there is a significant number of families where one or more members suffer from alcohol or drug addiction, which determines the need to provide such families with socio-psychological assistance as coaching (maintenance).

The state of the discussed problem and ways to solve it. Existing experience.

In the context of our study, it is legitimate to speak about working namely with a concrete family, since all members of any dysfunctional family need rehabilitation.

The most accurate structure of the phenomenon of rehabilitation potential was described by domestic specialists Zh. Porokhina and O. Gudilina, in their work devoted to the study of personal rehabilitation potential features. Most domestic authors also consider this phenomenon as an integral system of personal resources necessary to overcome a critical situation.

Bartsalkina V.V., Moiseev O.O., Tretyak E.V., Hromysheva E.V.
Rehabilitation Potential of Socio-psychological Support for Families with Alcohol or Drug Addiction Problems
Psychological Science and Education. 2022. Vol. 27, no. 6

Thus, V. Bartsalkina and I. Kulagina considered the concept of rehabilitation potential, as person's ability to adequately experience and overcome any social situation of disease, as a critical situation that destroys their life plan [1].

Various domestic technologies for socio-psychological family maintenance were proposed in different years by I. Baeva, M. Bityanova, G. Bardier, A. Volosnikov, E. Kazakova, E. Kozyreva, V. Mukhina, Yu. Slyusarev and other authors; the Russian scientific school of this trend also considered general theoretical approaches and principles of organization of psychological maintenance.

At the same time, modern psychological and pedagogical science still lacks a unified methodological approach to the consideration of the essence and analysis of socio-psychological maintenance [17]. It should also be taken into account, that traditionally the main attention in the process of rehabilitation and resocialization is paid to people with existing addiction, while far modest attention is usually paid to family factors in overcoming deviant behavior, the psychological health of other family members, and the health of the family as a social institution.

Therefore, today there is an urgent need for analytical study and generalization of the experience of socio-psychological support and maintenance for families with addiction problems, as well as the development of a solid evidence base for its organization.

The rehabilitation potential of working with the family from this point of view lies in the fact that through the influence on all family members, additional mutual influence is initiated within the family system, and overcoming chemical dependence reduces the risk of developing a diagnostically unfavorable mental status and codependency in other family members, including children.

In general, overcoming psychological codependence reduces the risk of addiction recurrence.

Analytical Part

I. Key elements of the study. Concepts and tools.
1.1. Rehabilitation potential as a basic concept

Potential — as such — is the certain reserves and capabilities of the subject or object of socio-psychological impact, which can be used and revealed under certain conditions [15]. The concept of "rehabilitation" first appeared in medicine, it describes a set of measures that are aimed at restoring lost or limited body functions due to adverse effects or endogenous factors. Consequently, we have the right to meaningfully define the rehabilitation potential as the possibility of restoring limited or lost social individual functions due to the influence of chemical addictions on himself and his life.

The rehabilitation potential is realized primarily through social and psychological support.

In modern interpretations of socio-psychological maintenance as a professional activity, its general and specific features are highlighted.

Firstly, under socio-psychological maintenance today many researchers consider a single and integral system of activity of specialist — psychologists, which is aimed at creating and maintaining special conditions for normal and harmonious personal development in a certain environment. Also, this activity should be aimed at promoting an independent choice of a life path (A. Vasyuk [3], A. Urusova [15], L. Chuchadeeva [17]).

Secondly, the use of this strategy is focused on such specific areas as psychological assistance to the individual, the satisfaction of his/her emotional needs, assistance in the development of his/her

stable value and moral norms, assistance in solving existential problems (E. Zimina, S. Makhalaeva [5], R. Nakokhova, A. Makoeva [11], etc.).

Thirdly, psychological maintenance can be represented as a process of improvement, optimization of personal functioning, and vital activity (O. Zabrodina [4], G. Ulanova, N. Klyueva, I. Nazarova [14], etc.).

Fourthly, the psychological aspect of maintenance is to help with life self-determination, the implementation of life choices in crisis situations; self-actualization and elimination of personal obstacles to development; strengthening and maintaining psychological health, as well as in providing psychological assistance to people who are or have already experienced a traumatic situation (M Murashkin [10], M. Cherekhovich [16], etc.).

It is customary to refer to the main components of the rehabilitation potential as the features of human mental processes, such as perception, memory, attention, and thinking; the specifics of the motivational, needful, and value-sense spheres; the specifics of the internal picture of the disease, in other words, the person's ideas about the severity of the disease, the possibilities of rehabilitation.

T. Dudko singled out the following diagnostic criteria for the levels of rehabilitation potential for patients with alcoholism and drug addiction: a high level of rehabilitation potential, an average level, and a low level. Accordingly, with a high level of rehabilitation potential, a person has an internal resource for changing problem behavior, and a low level of rehabilitation potential is characterized by a lack of incentives, and motives to change problem behavior [5].

It seems to us, that from the point of view of realizing the rehabilitation potential of socio-psychological family maintenance, it is necessary to take into account all of the above aspects since the problem of addictive behavior is complex and systematic.

I.2. Socio-psychological support as such

Based on the analysis of our information array, an idea is gradually being formed of the structure of socio-psychological family maintenance in its unity, interconnection, and complementarity with the three main models of psychological assistance, such as diagnostic, pedagogical, and psychological.

It can be considered a working hypothesis — and our information search really confirms this — that in the context of a systematic approach, the psychological accompanying paradigm requires studying and taking into account such family parameters as the *structure of family roles*, the *structure of family subsystems and boundaries between them*, *interaction features, family myths, scenarios, family stabilizers, and more others*.

As the problem develops, it becomes clear that the psychological family maintenance:

— As a way of psychological assistance, it is a non-directive complex technology;

— It is a system of interrelated long-term psychodiagnostic, psychocorrectional, psychoconsultative, and psychotherapeutic measures aimed at fulfilling the tasks of personal development and interpersonal interaction.

Socio-psychological maintenance involves the search for ways, that allow in a given situation:

— To adequately respond to requests for an appropriate level of professional assistance,

— Makes it possible to provide appropriate psychologically based professional services, in the long process of which the conditions for the following are created: a deeper knowledge of one's own personality, an increase in the level of psychological knowledge and psychological culture among the subjects of support, restoration of the potential for successful personal and family functioning, development and self-development of each family member.

Bartsalkina V.V., Moiseev O.O., Tretyak E.V., Hromysheva E.V.
Rehabilitation Potential of Socio-psychological Support for Families with Alcohol or Drug Addiction Problems
Psychological Science and Education. 2022. Vol. 27, no. 6

I.3. Codependency. Understanding and interpretation of the term in domestic and foreign psychology

Alcohol and drug addictions are forms of addictive, i.e. dependent, behavior that leads to disruption of interpersonal relationships, including within the family system.

Today, the phenomenon of codependency is at an actively studied phase [10].

For the first time the term "codependency" was proposed by R. Sabbi and J. Frilov in the publication "Codependency, an urgent problem" in 1970, with the aim to describe a system of relationships between individual who has some kind of chemical addiction and his/her significant people, and for those around these relationships are negative.

As a rule, a significant person tries to save the addict, thereby destroying his own life, refusing self-realization, and his own goals [20]. Most co-addicts fail to overcome the addiction of another person, and their life style becomes subordinate to the behavior of the addict, unhealthy patterns and patterns of behavior are developed that persist even against the background of a break or loss of a dependent family member.

V. Moskalenko considers codependency as a destructive behavior aimed at controlling the behavior of another while ignoring one's own vital needs [11]. She notes: "By saving the patient, codependents only contribute to the fact that he will continue to use alcohol or drugs. Then the codependents get angry at the patient. An attempt to rescue almost never succeeds. This is just a form of behavior that is destructive for both the dependent and the codependent" [11, p. 151].

B. Weinhold and J. Weinhold consider codependence as "acquired dysfunctional behavior arising from the incompleteness of fulfilling the tasks of personality development in early childhood" [15].

M. Beatty considers codependence to be the dysfunctional influence of a significant other, while the codependent himself is completely absorbed in controlling this behavior on his part [2].

As a rule, codependents experience a constant feeling of guilt, fear, and shame for a loved one, which often manifests in depressive and neurotic symptoms.

The social role of co-dependents is most often played by spouses, parents, children, less often friends. For example, in a marital dyad, a spouse can abuse alcohol, which negatively affects the emotional climate in the family, causes material losses, etc., while the spouse makes every effort to control her husband and prevent alcohol consumption, while the parents' performance of other important tasks suffers(economic, educational, etc.).

Basically, researchers agree that the roots of the behavior of co-dependents lie in childhood: the family of co-dependents is always dysfunctional.

A. Varga singled out the following characteristics of dysfunctional families: — role functions are rigid; — lack of a unified upbringing strategy, strict control, punishment, or vice versa, indifference and connivance; — personal boundaries by a family member are systematically violated or absent; — manipulative nature of communication; — devaluation of other people's feelings; — conflict, aggression.

Education in such conditions forms the psychological characteristics that form the basis of codependence. First of all, it is low self-esteem and long-term relationships with an addicted person [3].

M. Beatty considers codependency to be a disease since codependents will always react to the presence of addictions in others, codependency progresses more and more over time; the codependent does not feel the destructive nature of his own behavior and does not believe that he has problems.

Codependents consider themselves responsible for the whole world and refuse to take responsibility for their own lives [2].

Only some researchers consider it as a disease, but basically, codependence is interpreted as a kind of condition; it is a variant of the pathological development of the personality and extends to all its life spheres without exception.

Under certain conditions, codependence can be corrected, but so far little attention has been paid to this phenomenon and its overcoming [11].

Conclusions of subsection I.

The negative impact of the addictive behavior of one family member in one way or another extends to the rest of its members, especially for children. Therefore, the existing approaches to the correction of addictive behavior of a person outside the context of the family system in modern conditions do not justify themselves, therefore, it is necessary to find ways to corrective work with the entire family system as a whole.

The rehabilitation potential of socio-psychological support to overcome addictive behavior cannot be realized without comprehensive work with the family as the main unit of psycho-correctional influence.

II. Implementation of the author's approach to the socio-psychological support of families with chemical addiction.
Question status. Relevance.

As an example of connecting and activating the rehabilitation potential of socio-psychological support for families, we present our system of work on basis of the Center for Social and Psychological Support for People with Alcohol, Drug, and Other Addictions "The Aim", Moscow, where the project "Supporting families with alcohol addiction" was implemented [8].

The main difference between this own practice and the traditional one in working with alcohol-dependent families — is the formation among parents of a stable internal motivation for change.

In the implementation of this practice of socio-psychological family maintenance, we involved dysfunctional families, in some cases of which a neglect of children's needs (within the framework of the technology of early detection of family troubles) was revealed, where one or both parents abuse alcohol, with or without chemical dependence.

Despite the declared organized support for such categories of families and the satisfaction of their social problems, the need to provide them with psychological support is obvious.

However, in course of our daily work it turned out that in reality, psychological assistance in the format of family sessions offered to families was of a one-time nature and, as a rule, did not lead to constructive changes in the lives of children brought up in these families.

In connection with these facts, we consider *it necessary to have a more systematic, long-term, carefully planned work of the resource team of the center's specialists with families with the problems discussed here.*

Description of the author's approach

The target group included 18 families with children, where parents were prone to alcohol abuse.

Based on the fact that the formed dependence on alcohol includes both physical dependence and social, as well as psychological, participation in the support of the resource team is required.

The members of the resource team providing support to the families of the target group, in our case, were psychologists of "Aim" Center, including medical psychologists, psychotherapists, a specialist in the application of computer biofeedback technologies, specialists in providing psychological assistance through remote technologies to people in difficult life situations.

Specialists of the "Aim" Center are equipped with the necessary diagnostic and instrumental material.

Bartsalkina V.V., Moiseev O.O., Tretyak E.V., Hromysheva E.V.
Rehabilitation Potential of Socio-psychological Support for Families with Alcohol or Drug Addiction Problems
Psychological Science and Education. 2022. Vol. 27, no. 6

For specialists of the Center, methodological training seminars were held in order to form the necessary competencies, and techniques for visiting the family, establishing contact, conducting a motivational interview, and analyzing readiness to use the methods were worked out.

Webinars are also organized for them, face-to-face and distant, in order to provide methodological support and assistance in working with difficult cases [8].

The use of motivational interviews helped parents to become aware of the problems associated with alcohol use, which encourages self-analysis of life, and understanding of how alcohol use affects the current situation.

The most significant result of a motivational interview is the client's motivation for rehabilitation work. In the process of understanding the problem, an important role is played by the rehabilitation potential of the individual, or rather, its level. If we consider the determination of the level of rehabilitation potential as a standardized diagnosis, it becomes possible to assess the condition of each problem parent at the beginning of rehabilitation work and at its further stages, up to completion.

The participation of the specialists of "Aim", accompanied by a person, allows you to personally determine the method of rehabilitation and/or treatment of addiction, thus organizing the therapy of a motivated addict to give up alcohol and further maintain sobriety.

Group events for children and adolescents are designed to work out the problems of child-parent relationships, however, in the process of project implementation, other equally important life areas are affected, such as: work with feelings; emotional intellect; health sector; influence of stress factors; protection of personal boundaries; choice of profession; avoiding danger zones, etc.

Consequently, the psychologists of the "Purpose" Center organized work to increase family resources by introducing various forms of work that unite and support parents and children and are aimed at meeting such basic needs of families as positive family relationships; the opportunity to feel like a good parent, the opportunity to share their problems and successes, the organization of joint activities with children.

Attention was also paid to working with co-dependent family members. The participation of the immediate environment in the program of support for relatives made it possible to understand what influences recovery, how to help and support the desire of their recovering addicted relatives for changes in life, and how to cope with relapses. In fact, co-dependent relatives experience emotional pain no less than dependent ones, and sometimes even more, respectively, help in the form of psychological support is extremely important for them.

Based on the results of the implementation of the practice, positive changes were observed in 70% of the beneficiaries (families with children).

Conclusion

We considered here the system of socio-psychological maintenance for dysfunctional families with addictive behavior, as a non-directive complex technology aimed at fulfilling the tasks of personal development and interpersonal interaction of subjects of assistance.

Socio-psychological maintenance of any problem family is an effective route for unlocking its potential in rehabilitation and psychological interaction.

In the context of correcting addictive behavior, it is more productive to work with codependency and the family system as a whole, since relationships with an addictive person are disharmonious and lead to the blurring of psychological boundaries and the co-dependent member of the family system feels powerless to change anything in destructive relationships. The experience of the authors working with families with alcohol addiction gained in "The Aim" Center

(Moscow), where complex work with parents and children is carried out, showed that the implemented project is proven to be effective, and its structure can serve as a model for the further development of similar projects for rehabilitation of drug and alcohol addicts and their families.

The practical experience of the Purpose Center allows parents to understand the needs of their children, see the relationship between alcohol abuse and existing family problems, form a new skill to overcome problem situations, and identify new supportive resources.

This is evidence that the socio-psychological support of the family — as an integral system — has a significant rehabilitation potential for overcoming addictive behavior.

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Bartsalkina V.V., Moiseev O.O., Tretyak E.V., Hromysheva E.V.
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Psychological Resources of Employees of Organizations for Orphans with Different Levels of Emotional Intelligence

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The results of the study of psychological resources of educators of organizations for orphans with different levels of emotional intelligence (EI) are presented. The study involved 186 employees from 39 regions of the Russia. 3 groups were identified: high (N=57), medium (N=83) and lowered (N=34) levels of EI. It is established that the degree of severity and content of psychological resources depend on the level of EI. A group with a high level can be considered as a model. Representatives of the average and lowered level of EI have adaptation mechanisms that compensate for the lack of EI. In a medium group excessively high requirements for their involvement in activities increase the risk of professional burnout, reduce satisfaction with instrumental resources, and increase vulnerability "to a conflict of roles". The specificity of psychological resources is noted, which is expressed in: 1) the predominance of interpersonal EI (hereinafter MEI) over intrapersonal EI (hereinafter WEI); 2) a certain specificity of the structure of psychological resources, which included 5 components: a) the EI resource as the key; b) the resources of stability and self-regulation in relation to subjective well-being; c) motivational resources associated with the potential of compassion; d) environmental resources and the self-efficacy of emotional self-regulation; e) instrumental resources negatively associated with the conflict of roles.

Keywords: educators, structure, psychological resources, emotional intelligence.

155

Ослон В.Н., Одинцова М.А., Семья Г.В., Колесникова У.В., Зайцев Г.О. Психологические ресурсы
работников организаций для детей-сирот с разным уровнем эмоционального интеллекта
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Психологические ресурсы работников организаций для детей-сирот с разным уровнем эмоционального интеллекта

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Представлены результаты исследования психологических ресурсов воспитателей организаций для детей-сирот с разным уровнем эмоционального интеллекта (ЭИ), проведенного в 2022 г. В исследовании участвовали 186 работников из 39 регионов Российской Федерации. Выделено 3 группы: с высоким (N=57), средним (N=83) и сниженным (N=34) уровнем ЭИ. Установлено, что степень выраженности и содержание психологических ресурсов зависят от уровня ЭИ. Группу с высоким уровнем можно рассматривать в качестве эталонной. У представителей среднего и сниженного уровня ЭИ имеются механизмы адаптации, компенсирующие недостаточность ЭИ. В группе со средним уровнем ЭИ чрезмерно высокие требования к своей вовлеченности в деятельность усиливают риск профессионального выгорания, снижают удовлетворенность инструментальными ресурсами, повышают уязвимость к конфликту ролей. Выделена специфика психологических ресурсов, которая выражается в: 1) преобладании межличностного ЭИ (далее — МЭИ) над внутрилич-

Oslon V.N., Odintsova M.A., Semya G.V., Kolesnikova U.V., Zaitsev G.O. Psychological Resources
of Employees of Organizations for Orphans with Different Levels of Emotional Intelligence
Psychological Science and Education. 2022. Vol. 27, no. 6

ностным ЭИ (далее — ВЭИ); 2) определенной специфике структуры психологических ресурсов, включившей 5 составляющих: а) ресурс ЭИ как ключевой; б) ресурсы устойчивости и саморегуляции во взаимосвязи с субъективным благополучием; в) мотивационные ресурсы, связанные с потенциалом сострадания; г) ресурсы среды и самоэффективность эмоциональной саморегуляции; д) инструментальные ресурсы, отрицательно связанные с конфликтом ролей.

Ключевые слова: воспитатели, структура, психологические ресурсы, эмоциональный интеллект.

Introduction

The organizational and content changes towards more humanistic methods of work in state-run orphanages [20] have altered the requirements for professional caretakers. In fact, they have to move to the role of a "social mother", a significant adult for each child, to fulfill their duties of care and upbringing, often for 24 hours a day.

If we take into account that most often children come to the system in a state of acute psycho-trauma, then it is obvious that the orphanage staff find themselves overloaded, with a high stress level, their professional roles are confused, and they face a danger of professional burnout, as a result, the situation leads to high staff turnover. It is no coincidence that researchers characterize the conditions of professionals in the field of children's rights protection as close to extreme [9].

In this regard, the Ministry of Education of the Russian Federation raised the question: what psychological resources should an orphanage employee have so that his activity, on the one hand, contributes to the successful socialization of the child, and, on the other hand, does not threaten the mental health and well-being of the employee himself?

The answer to this question lies in the paradigm of the resource approach, which focuses on the strengths of the individual, internal and external factors of coping with difficult situations, the ability to maintain health, and the ability to adapt, despite the high stress of the situation.

An analysis of international and domestic studies confirms the special role of the personal resources of workers in helping professions [4; 6; 26].

According to the analysis, a strong emotional intelligence prevails as a basic resource, which prevents professional burnout, helps to "establish and maintain trust", and be less vulnerable to manifestations of psycho-trauma [7; 8], and allows to overcome ongoing stress [2; 19].

Domestic and foreign researchers study emotional intelligence within the ability model framework (J. Mayer, P. Salovey)

Ослон В.Н., Одинцова М.А., Семья Г.В., Колесникова У.В., Зайцев Г.О. Психологические ресурсы
работников организаций для детей-сирот с разным уровнем эмоционального интеллекта
Психологическая наука и образование. 2022. Т. 27. № 6

and the framework of the mixed-type model (R. Bar-On). In the model of D.V. Lusina, EI is defined as the ability to recognize emotions, intentions, manage them, distinguish motivation, and desires of one's own and other people, as well as a psychological formation that is formed in the course of a person's life [7; 8]. Some studies establish correlations between EI and a preferred constructive coping strategy, an optimal level of anxiety, self-esteem, a decrease in emotional burnout, and personal adaptive potential [3].

Educators and teachers consider EI as a factor of job satisfaction, the basis of psychological observation, empathy, and social perception [10; 21; 22].

The studies of invariant and variant socio-psychological characteristics of successful, substitute (fostering) mothers (in many respects close to employees of organizations for orphans), point out the "emotional intelligence" as a key position in the structure of the effectiveness of substitute (out of home) family care [16].

The concept of psychological resources by D.A. Leontiev and emotional intelligence D.V. Lusina [6; 7; 8] became the theoretical and methodological basis of this study.

The purpose of the study is to identify and analyze the psychological resources of orphanages' employees with different levels of emotional intelligence.

Goals:

1. Select groups of workers with different levels of EI and analyze their socio-demographic characteristics: age, education, marital status, having their own children, work experience in the CPS (child protective services) system, and satisfaction with this experience.

2. Conduct a comparative analysis of the psychological resources of workers with different levels of EI, based on the theoretical model of D.A. Leontiev. [6]

3. Identify the structure of the psychological resources of workers.

Hypothesis:

The identification of the groups of workers with different levels of EI will lead to understanding the specifics of personal resources such as sustainability, self-regulation as well as motivational and instrumental resources, and will reveal the structure of psychological resources that characterize this particular category of workers.

Organization, Methods and Procedure of the Research

The study was conducted in accordance with the ethical standards of the Declaration of Helsinki 1964. The informants gave their written consent to participate.

EI was measured using the "ЭмИн" questionnaire (Emotional Intelligent) by D.V. Lucina

Methods were selected in accordance with the structure of D.A. Leontiev.

Resources of sustainability and self-regulation: an abbreviated version of the Test of Resilience [14]; the methodology "Compassion Fatigue among Specialists in Helping Professions" [11]; Subjective Well-being Scale (WEMWBS) [12].

Motivational resources were determined by means of a questionnaire of professional motivation [13], the Utrecht Scale of Work Enthusiasm [5], and the author's questionnaire of satisfaction with certain aspects of work activity.

Tool resources: questionnaire "Professional Competencies of Orphanages' Employees" (V.N. Oslon).

The study involved 174 caretakers (average age 44.2 + 10.7) from 39 regions of the Russian Federation. The vast majority were women (91.95%). Almost all informants (96%) were brought up in parental families. Every 3rd (31.7%) has no children, and every 2nd (46.8%) is not married. The majority (50.6%) have a basic pedagogical education, every 5th one has psychological (9.2%) training or training in social work (9.2%). That makes a typical

Oslon V.N., Odintsova M.A., Semya G.V., Kolesnikova U.V., Zaitsev G.O. Psychological Resources
of Employees of Organizations for Orphans with Different Levels of Emotional Intelligence
Psychological Science and Education. 2022. Vol. 27, no. 6

worker: a woman over 40, often single, with a pedagogical education.

When processing the data, the following were used: the k-means method to identify groups with preliminary normalization of data through z-values; one-way analysis of variance ANOVA to analyze differences between groups in terms of quantitative indicators; c^2 for the analysis of differences in qualitative characteristics, factor analysis for structuring the data array and highlighting the structure of the psychological resources of workers. The calculations were made using the SPSS-21 program.

Results

To identify the groups of workers with different levels of EI, a cluster analysis was carried out using the k-means method, taking into account the generalized results of the "ЭмИн" (EI) methodology. The data were preliminarily normalized (Fig. 1).

The first cluster (N=83) included workers with average scores on all EI scales (Group with an average level of EI). The second cluster (N=57) includes employees with high scores on EI scales (Group with a high level of EI). The third cluster (N=34) — employees with low scores of all characteristics of EI (Group with a reduced level of EI).

The clusters did not differ in socio-demographic characteristics: age (F=0.568; p=0.421); education (c^2=5.382 at p=0.716); marital status (c^2=6.159 at p=0.406); the presence of their children (c^2=1.176 at p=0.555); work experience (c^2=13.062 at p=0.110); satisfaction with work experience (c^2=6.601 at p=0.159).

A comparative analysis of the personal resources of employees depending on different levels of EI was carried out using a one-way analysis of variance. Table 1 presents the characteristics for which significant differences were found between the groups.

Caretakers with different levels of EI differ in all characteristics of resilience, subjective well-being, and the potential for compassion (resilience resources). The highest level of expression of these characteristics was found in workers with a high level of EI. The same pattern was found in motivational resources. The conflict of roles
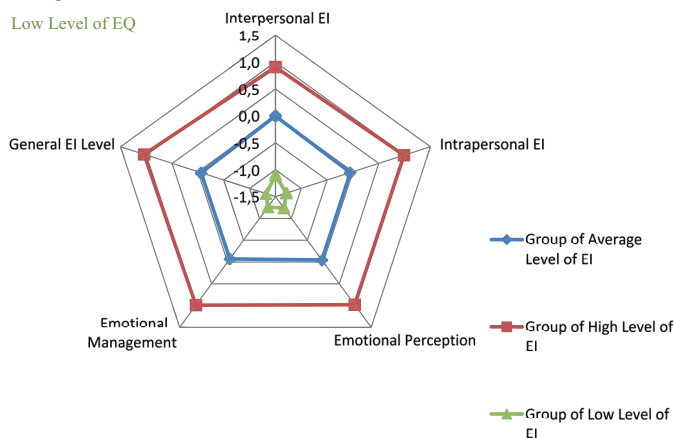

Fig. 1. Results of cluster analysis using the k-means method (z-values)

Table 1

Psychological Resources in Groups of Workers with Different Levels of EI

Characteristics	Groups	Mean Deviation	F-value	Differences of Level Significance
Involvement	1	21.96+5.8	15.927	0.000
	2	25.57+5.1		
	3	18.85+6.1		
Control	1	15.86+4.5	23.187	0.000
	2	18,75+4,2		
	3	12.08+4.9		
Risk Taking	1	12.0+3.7	22.768	0.000
	2	14.2+3.4		
	3	8.97+3.5		
Resilience	1	49.83+13.3	22.488	0.000
	2	58,5+11,9		
	3	39.9+13.4		
Subjective Well-being	1	53.5+7.8	12.948	0.000
	2	58,4+7,9		
	3	50.6+6.4		
Compassion Potential	1	94,0+10,5	7.109	0.001
	2	96.6+18.4		
	3	85.2+14.8		
Self-efficacy	1	2.8+0.5	6.819	0.001
	2	2.9+0.7		
	3	2.4+0.8		
Procedural Self-efficacy	1	4.0+0.8	6.882	0.001
	2	4.5+0.7		
	3	4.0+0.9		
Internal (Intrinsic) Motivation	1	4.1+0.9	5.350	0.006
	2	3.8+1.2		
	3	3.3+1.4		
Integrated Motivation	1	3.7+0.9	6.399	0.002
	2	3.7+1.2		
	3	2.9+1.3		
Role Conflict	1	2,5+0,7	3.345	0.038
	2	2.1+0.8		
	3	2.3+0.8		
Trust and Mutual Respect	1	3.8+0.7	9.662	0.000
	2	4.2+0.7		
	3	3.6+0.8		
Support Satisfaction	1	3,9+0,7	10.734	0.000
	2	4.4+0.7		
	3	3.7+0.7		

Oslon V.N., Odintsova M.A., Semya G.V., Kolesnikova U.V., Zaitsev G.O. Psychological Resources
of Employees of Organizations for Orphans with Different Levels of Emotional Intelligence
Psychological Science and Education. 2022. Vol. 27, no. 6

Characteristics	Groups	Mean Deviation	F-value	Differences of Level Significance
Satisfaction with Working Conditions	1	3.6+0.8	3.986	0.020
	2	3.9+0.7		
	3	3.4+0.9		
Activity Absorption	1	4.9+1.2	3.458	0.034
	2	4.6+1.3		
	3	4.2+1.8		
General Passion for the Activity (General Engagement)	1	5.1+1,1	3.324	0.038
	2	5.0+1,1		
	3	4.5+1,2		
Average Subjective Assessment of Knowledge	1	3.3+0,9	8.481	0.000
	2	3.3+1,1		
	3	2.4+0,9		
Average Subjective Assessment of Skills	1	3.7+0,6	4.187	0.017
	2	3.7+0,9		
	3	3.2+0,8		
Average Subjective Assessment of Ability	1	3.5+0,7	3.549	0.032
	2	3.7+0.9		
	3	3.1+0.9		

is more e characteristic of workers with medium and low levels of EI. Employees with a high level of EI valued trust and mutual respect in the team, rated satisfaction with support, and working conditions more highly.

Self-regulation resources (self-efficacy of emotional regulation, procedural self-efficacy) are most pronounced in workers with a high level of EI. And it is noticeable that self-efficacy of emotional regulation of workers with an average level of EI is typical to the same extent for workers with a high level of EI, then procedural self-efficacy in this group is at the same level as in workers with a reduced level of EI.

An analysis of differences in instrumental resources (average self-assessments of knowledge and skills) showed that care takers with a high and medium level of EI rated their knowledge, skills, and abilities in the field of work more highly.

A detailed analysis of differences in instrumental resources showed that knowledge of the orphans' psychology (p=0.000); childhood trauma (p=0.001); resocialization of orphans (p=0.003) was more highly rated by workers with high and medium levels of EI. Significant differences in the subjective assessments of employees with different levels of EI (higher were rated by employees with high and medium levels of EI) were obtained for the following skills:

• establishing tolerant relationships with orphanage residents/children (p=0.025);
• give an accurate description of the behavior of children (p=0.007);
• form normative behavioral skills among children (p=0.003);
• motivate children to achieve (p=0.034);
• teach children relationship-building skills (p=0.019);

Ослон В.Н., Одинцова М.А., Семья Г.В., Колесникова У.В., Зайцев Г.О. Психологические ресурсы
работников организаций для детей-сирот с разным уровнем эмоционального интеллекта
Психологическая наука и образование. 2022. Т. 27. № 6
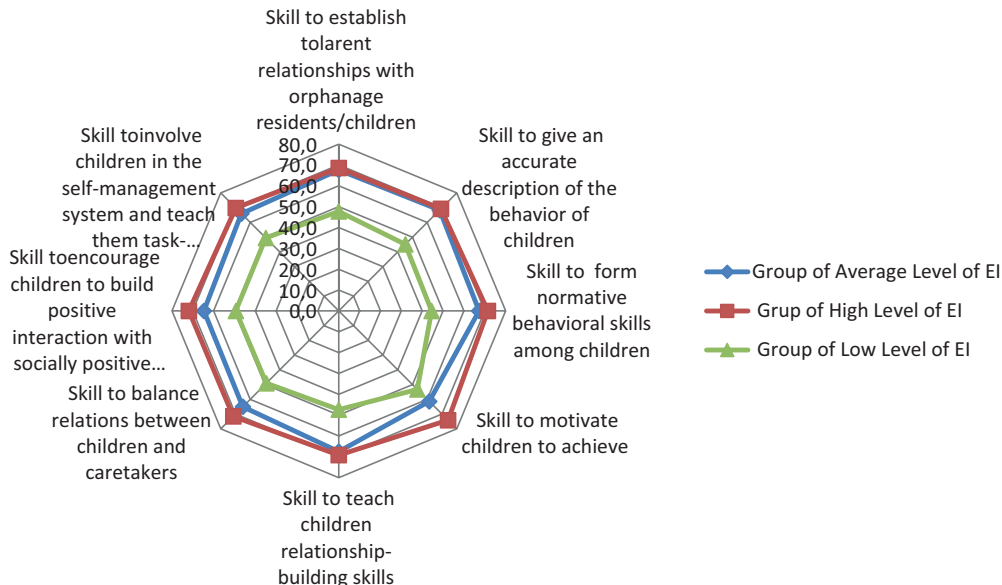
Fig. 2. Instrumental Resources

• balance relations between children and caretakers (p=0.027);

• encourage children to build positive interaction with socially positive peers (p=0.029);

involve children in the self-management system and teach them task-solving skills within the institutional environment and in their own lives (p = 0.047).

Such skills as correction of disruptive behavior among pupils (p=0.016); helping kids to transfer acquired social skills into new social situations (p=0.011); applying kids' motivation appropriately to the circumstances (p=0.004) were also highly rated by employees with high and medium levels of EI.

Table 2

**Structure of psychological resources of employees of the guardianship system
(Factor analysis by the method of principal components, varimax rotation)**

	Factor				
	1	2	3	4	5
General EI	**.959**	.205	.048	.130	.084
Understanding Emotions	**.934**	.090	.112	.150	.,065
Interpersonal EI	**.905**	.133	.071	.046	.039
Emotion Management	**.856**	.295	-.024	.091	.093
Intrapersonal EI	**.834**	.228	.020	.175	.106
Hardiness (Resilience)	.288	**.901**	.234	.160	.046
Control	.256	**.877**	.177	.109	.044
Risk Taking	.330	**.844**	.193	.108	.018

Oslon V.N., Odintsova M.A., Semya G.V., Kolesnikova U.V., Zaitsev G.O. Psychological Resources
of Employees of Organizations for Orphans with Different Levels of Emotional Intelligence
Psychological Science and Education. 2022. Vol. 27, no. 6

	Factor				
	1	2	3	4	5
Involvement	.250	**.842**	.278	.216	.059
Subjective Well-being	.336	**.619**	.226	.314	.088
Activity Absorption	-.053	.187	**.848**	.130	.073
General Engagement	.019	.300	**.841**	.230	.022
Internal (Intrinsic) Motivation	.028	.142	**.772**	.124	.290
Integrated Motivation	.027	.166	**.665**	.140	.341
Compassion Potential	.234	.143	**.581**	.055	.097
Trust and Mutual Respect	.143	.250	.053	**.838**	-.045
Support Satisfaction	.176	.310	-.027	**.801**	-.003
Satisfaction with Working Conditions	.129	-.004	.207	**.768**	-.063
Procedural Self-efficacy	.155	.194	.142	**.759**	-,061
Self-efficacy of Emotional Regulation	.072	-.016	.189	**.506**	,130
Average Subjective Assessment of Ability	.117	-.050	.259	.020	**.904**
Average Subjective Assessment of Skills	.079	.064	.357	-.015	**.858**
Average Subjective Assessment of Knowledge	.145	.057	.278	.098	**.826**
Role Conflict	-.068	-.077	.218	.136	**-.345**
% dispersion	25.9	14.89	12.57	11.59	9.53

Discussion

The selected EI indicators clearly divided all participants into 3 groups. The most numerous was the group with an average level, which correlates with the results of other studies [24; 25].

The manifestation of the majority of resources increases in accordance with the raising of EI level, so the group with a high level of EI can be considered as a "reference" (group 1) for this category of workers (Table 1).

The representatives of the average and reduced levels of EI (groups 2 and 3, respectively), demonstrate some resources with a degree that exceeded or corresponded to the degree of participants of group 1 with a higher level of EI. In group 2, this referred to motivational resources, in group 3 — to procedural self-efficacy. These resources can be considered as adaptation mechanisms that compensate for the lack of EI.

The high level of requirements for one's involvement in the work [13] in group 2 contributed to greater vulnerability to "role conflict". It draws attention to the fact that among the informants of group 1, the degree of its severity is the lowest, which can be attributed to better psychological health.

Employees of group 1 are more able to consider and manage the behavior of children, motivate them to achieve (the highest score among other competencies), choose more constructive methods of pedagogical influence, verbalize feedback to children (the ability to give an accurate description of pupil's behavior), initiate their activity (the ability to involve pupils in the system of self-government). They are also able to model effective tolerant interaction with different partners, normalize behaviors, establish trust relationships with them, help to integrate into educational organizations, and act as a mediator between children and teachers (the ability to balance relations between them).

In the self-assessment of workers in group 2, one can clearly see dissatisfac-

Ослон В.Н., Одинцова М.А., Семья Г.В., Колесникова У.В., Зайцев Г.О. Психологические ресурсы
работников организаций для детей-сирот с разным уровнем эмоционального интеллекта
Психологическая наука и образование. 2022. Т. 27. № 6

tion with their ability to control the behavior of pupils, which indicates feelings of helplessness in implementing their job duties. Compared to informants with a high level of EI, they rate their professional skills lower, but they have communicative competencies, practically at the level of group 1, which allow them to build positive relationships with pupils, initiate their activity, which can be attributed to specific instrumental resources that allow them to adapt in an organization.

Employees of group 3 among their professional competencies give a higher rating to the ability to influence the behavior of pupils and a lower understanding of its causes, which may indicate the choice of authoritarian discipline. They doubt their own ability to become a model of normative behavior for children.

It draws attention to the fact that self-assessment of the ability to form social and everyday skills in children, and the ability to maintain high-quality informal relations with orphanage residents are independent of the level of EI, which can be attributed to the general resources of workers.

Factor analysis brought EI and its components to the role of a key resource. Of interest is the ratio of the factor weights of intrapersonal EI and internal EI (Table 2): intrapersonal EI makes a greater contribution to the success of employees. The ratio of intrapersonal EI and internal EI and their impact on the success of activities is assessed differently in studies.

Samples of teachers and other educators show a direct correlation between adaptive abilities and a greater degree of internal EI [3; 17; 18; 22], unlike a study of EI of teachers in urban and rural schools, which proved the predominance of internal EI to be a significant problem for professional activity, creating "additional conflicts, not allowing a comprehensive approach to the organization of professional performance" [24].

Based on these findings, orphanages' employees are more focused on the inner world and emotional manifestations of the child and colleagues, and less on themselves. The latter is also confirmed by the higher factorial weight of the "understanding of emotions", "their causes, the ability to predict their consequences" component compared to the control over their intensity and external expression.

The upbringing of traumatized orphaned children requires the ability to withstand stressful situations, i.e., a high level of hardiness [6]. These resources took 2nd place in the structure of factors. When compared with the "norm" [14], even among the representatives of group 1, the result does not exceed the average values. The "inverted" hierarchy of resilience components draws attention: "control", "risk acceptance", "involvement". In all likelihood, this hierarchy can be considered as psychological protection of employees in a situation of high uncertainty and confidence in a positive result of activity. A high level of motivation and involvement in activities, as mentioned above, is associated with a high degree of severity of the "role conflict" indicator.

Motivational resources (3rd place in the structure) reflect the energy supply of the individual's actions to overcome a stressful situation [6]. The greatest factor load is carried by indicators of a positive attitude to work "preoccupation with activity", which is experienced as part of one's own identity, and vocation. The structure of the factor includes "compassion potential", which prevents the development of "compassion fatigue", which implies emotional, mental, and physical exhaustion [11]. In group 2, this indicator is significantly lower than in informants with a high level of EI, which confirms the risk of developing "compassion fatigue".

On the 4th place — the factor of environmental resources. Here, the resource "trust and mutual respect" bears the greatest factor load as the most important condition for

Oslon V.N., Odintsova M.A., Semya G.V., Kolesnikova U.V., Zaitsev G.O. Psychological Resources
of Employees of Organizations for Orphans with Different Levels of Emotional Intelligence
Psychological Science and Education. 2022. Vol. 27, no. 6

the development of any organization [1]. It also determines the level of development of pedagogical communication [23] and is a source of "satisfaction with support and working conditions", and self-efficacy of the emotional regulation of employees. For pupils, these relations are of an exceptional nature, because of the lack of basic trust in the world, models of trusting and respectful relationships contributing to their subsequent desocialization [16]

The last in the factor structure were instrumental resources: instrumental skills and competencies [6]. Preference is given to professional skills. Their scores are higher for workers with high EI. It draws attention to the fact that the conflict of roles turned out to be with a negative value in this factor.

Conclusion

The article analyzes new empirical data on the psychological resources of caretakers in organizations for orphans under the new requirements [20]. The structure of the psychological resources of educators, in general, corresponds to the concept of D.A. Leontiev, but one can find in it certain specifics that are characteristics of this particular category. Five components of the psychological resources of workers were identified:

1) EI resource, which has taken a key position;

2) resources of sustainability and self-regulation (hardiness and subjective well-being);

3) motivational resources positively associated with the potential for compassion;

4) environmental resources associated with emotional self-regulation;

5) instrumental resources negatively associated with role conflict.

The priority of interpersonal EI over internal EI was revealed, which distinguishes this category of workers from school teachers and other professional groups, which, in all likelihood, is associated with the peculiarities of working with orphans.

Representatives of groups with medium and low levels of EI have specific adaptation mechanisms that compensate for the insufficiency of EI: employees with an average level of EI have motivational resources; in workers with reduced-procedural self-efficacy.

The allocated psychological resources will make it possible to predict the success of the adaptation of caretakers in organizations for orphans, as well as to develop targeted programs aimed at preventing professional burnout, strengthening psychological health, and increasing efficiency in raising children.

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Ослон В.Н., Одинцова М.А., Семья Г.В., Колесникова У.В., Зайцев Г.О. Психологические ресурсы
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Психологическая наука и образование. 2022. Т. 27. № 6

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A Comprehensive Approach to the Professional Development of Specialists of Guardianship and Guardianship Authorities in Relation to Minors

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The article discusses the relevance and grounds for the creation of a comprehensive system of professional development of specialists of guardianship and guardianship (OOIP) in relation to minors who are state and municipal employees. Currently, there is no system of specialized professional training of OOIP specialists within the framework of secondary and higher education. The article analyzes the experience of conducting advanced training courses and the work of the only master's degree in the country in the direction of "Specialist OOIP in relation to minors", which combines two models: "inconsistent", since there is no consistent bachelor's degree, and "advanced training", designed for people who already have work experience. The conducted research on a sample of 1080 OOIP specialists revealed the specifics of their work, psychological well-being, educational needs, and the relevance of master's degree studies. The analysis of professional development programs showed that psychological and pedagogical disciplines occupy about 50% of the volume. The study revealed the presence of new trends: confessional competencies required to work with families of different faiths, competencies in the field of digitalization of specialists' activities, mediation skills, the ability to work in an interdepartmental and multidisciplinary team, the ability to identify the opinion of a child of any age on issues affecting his interests are in demand. It is shown that the system of training of OOIP specialists includes professional and personal self-development and self-improvement, one of the forms of which are professional skill contests. The innovation of recent years has been the creation of resource centers in the regions that provide methodological support, consulting, organization and maintenance of a closed group in a social network, supervision, training events for OOIP specialists. It is recommended to include in the regional professional development programs, in addition to advanced training courses, other elements of the personnel management system: planning, organization, selection, motivation, stimulation, control, as well as career management of OOIP specialists.

Keywords: professional development, specialists of guardianship and guardianship authorities, educational needs, master's degree, comprehensive approach.

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Комплексный подход к профессиональному развитию специалистов органов опеки и попечительства в отношении несовершеннолетних

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В статье обсуждаются актуальность и основания для создания комплексной системы профессионального развития специалистов органов опеки и попечительства (ООиП) в отношении несовершеннолетних граждан, которые являются государственными и муниципальными служащими. В настоящее время отсутствует система профильной профессиональной подготовки специалистов ООиП в рамках среднего и высшего образования. Анализируется опыт проведения курсов повышения квалификации и работы единственной в стране магистратуры по направлению «Специалист ООиП в отношении несовершеннолетних», которая объединяет в себе две модели: «непоследовательную», так как отсутствует последовательный бакалавриат, и «повышающую квалификацию», рассчитанную на людей, уже имеющих опыт работы. Проведенное исследование на выборке 1080 специалистов ООиП позволило выявить специфику их работы, психологическое самочувствие, образовательные потребности, актуальность обучения в магистратуре. Анализ программ повышения квалификации показал, что психолого-педагогические дисциплины занимают около 50% объема. Исследование выявило наличие новых трендов: востребованы конфессиональные компетенции, необходимые для работы с семьями разных конфессий, компетенции в сфере цифровизации деятельности специалистов, навыки медиации, умения работать в межведомственной и полидисциплинарной команде, умение выявить мнение ребенка любого возраста

Семья Г.В., Яровикова О.А., Лашкул М.В. Комплексный подход к профессиональному развитию
специалистов органов опеки и попечительства в отношении несовершеннолетних
Психологическая наука и образование. 2022. Т. 27. № 6

по вопросам, затрагивающим его интересы. Показано, что система подготовки специалистов ООиП включает профессионально-личностное саморазвитие и самосовершенствование, одной из форм которого являются конкурсы профессионального мастерства. Новацией последних лет стало создание в регионах ресурсных центров, осуществляющих методическое сопровождение, консультирование, организацию и ведение закрытой группы в социальной сети, проведение супервизии, обучающих мероприятий для специалистов ООиП. Рекомендовано включить в региональные программы профессионального развития, помимо курсов повышения квалификации, другие элементы системы управления кадрами: планирование, организацию, отбор, мотивацию, стимулирование, контроль, а также управление карьерой специалистов ООиП.

Ключевые слова: профессиональное развитие, специалисты органов опеки и попечительства, образовательные потребности, повышение квалификации, магистратура, комплексный подход.

Introduction

As of 2019, the authority for minor's guardianship and custody was available in various executive agencies: education — 47 subjects of the Russian Federation; social protection, health — 36 subjects; departments for family and children — 2 subjects, and in another 2 ones, the responsibilities of guardianship authorities were assigned to governmental institutions [7].

In 2021, the number of specialists executing the guardianship and custody of minors in Russia was 12,135 (hereinafter referred to as guardianship authorities specialists), of which 51.7% have been working in guardianship and custody bodies for more than 5 years, 14.1% — for 3 to 5 years, 8.6% — for 1 to 3 years and 15.6% — less than 1 year [3]. According to Article 6 of the Federal Law 'On guardianship and custody' [20], guardianship specialists are public civil servants or municipal employees who are subject to the legislation on public civil service and municipal service respectively, as well as those who are obliged to maintain the level of qualification necessary for the proper performance of official duties [21].

A characteristic feature of public civil servants and municipal employees is the uniformity of requirements, including professional development, i.e., the guardianship specialists , regardless of whether they are public civil servants or municipal employees, should be subject to uniform requirements for professional development [21].

However, so far there is no system for the specialized vocational training of guardianship specialists within higher education, there are also no state educational standards and, consequently, no general and professional competencies have been defined.

Semya G.V., Lashkul M.V., Yarovikova O.A. A Comprehensive Approach to the Professional Development
of Specialists of Guardianship and Guardianship Authorities in Relation to Minors
Psychological Science and Education. 2022. Vol. 27, no. 6

In 2013, specialists at Moscow State Pedagogical University developed [18] and the Russian Ministry of Labour approved the professional standard, 'Specialist of the guardianship and custody body for minors', according to which the main goal of professional activity is to 'prevent violations, ensure and protect the rights and legitimate interests of children, their social and other state guarantees, including those established in international treaties and agreements with the participation of the Russian Federation, supervision of guardians and custodians'. [14].

In 2015, an Order of the Ministry of Education and Science of the Russian Federation approved an exemplary additional professional development programme for employees of guardianship and custody bodies, and now, the conditions for the formation of professional competencies of guardianship authorities specialists become mainly short-term professional development courses on narrow topics [13].

An analysis of the activities of the specialists shows that the number of mandates entrusted to them exceeds 60. The scope of knowledge required ranges from protecting the property and non-property rights of children and representing their interests in court (legal knowledge) to assessing the psychological and pedagogical potential of a family when deciding whether to remove a child from their parents, identifying cases of abuse, considering the social and psychological adaptation of an orphan in a foster family and the living and parenting conditions of the child. Guardianship authorities specialists are the first to make legally and psychologically complex decisions and are responsible for their adequacy and validity. In addition, professionals should be able to communicate with children of all ages and seek their views on issues affecting them [16].

In 2018, Moscow State University of Psychology and Education opened its first full-time master's degree programme in 'Guardianship and Custody of Minors' (training area 44.04.02 — Psychological and Pedagogical Education) [12].

The opening of the master's programme, which is the second level of higher education, bypassing the first level, is driven by the urgent need in the field of child abandonment prevention to train highly qualified specialists in protecting the rights and legitimate interests of children who are able to solve complex problems in the context of the announced reform of child guardianship and custody agencies [16; 19].

The choice of a psychological and pedagogical field is linked to the growing need for psychological knowledge and the increasing number of guardianship authorities specialists, primarily those with a law degree or training in areas such as 'Economics', 'Finance and Credit, or 'Management'.

According to the handbook of qualification requirements [8] for professions, areas of training, knowledge, and skills required to fill civil service positions, taking into account the area and type of professional career activities of civil servants, the activities of the guardianship authorities are classified as 'Regulation in the field of guardianship and custody' within the area of professional career activities 'Regulation in the field of labour and social development'. Recommended disciplines, areas of training: 'Psychological-pedagogical education', 'Psychology', 'Pedagogical education', 'Pedagogy and psychology of deviant behaviour' or other disciplines and areas of training contained in the previously applied lists of disciplines and areas of training, for which the legislation on the education of the Russian Federation established correspondence to the specified disciplines and areas of training.

This challenges higher education institutions to create a model for the profile training of specialists engaged in the implementation of the guardianship and custody

Семья Г.В., Яровикова О.А., Лашкул М.В. Комплексный подход к профессиональному развитию
специалистов органов опеки и попечительства в отношении несовершеннолетних
Психологическая наука и образование. 2022. Т. 27. № 6

mandate, as well as the scientific, programmatic, teaching, and methodological support. Such a model, based on the competence approach, is proposed by V.N. Oslon and G.V. Semya [10]. The proportion of psycho-pedagogical knowledge and skills required to fulfill the work functions of a guardianship authorities specialist in the education programme equals 59%. A special role in the training of masters is given to the formation of research competence, which is defined as an integrated quality of the individual, consisting in the flexible application of research experience in solving problems of the social sphere, including education [5; 6]. Master's study forms 'motivation for learning, focused on personal growth; a desire to "rise above" one's own experience; prevention or coping with the situation of emotional burnout; formation of a new approach to professional activity, allowing to consider the problems of children and families from resource-based positions' [10].

The Russian Government's 2021 Plan of Action for the Decade of Childhood up to 2027 set out to organize a system of training, retraining, and professional development for specialists from agencies and organizations working to protect children's rights [17]. The basis for the development of such a system is the professional development needs of guardianship authorities managers and specialists, which was the aim of the study.

Study Programme and Methods

A questionnaire consisting of two thematic blocks was developed to identify the conditions for the professional development of guardianship authorities specialists. The first block contained questions related to the specifics of the respondents' jobs as well as their psychological well-being. The next set of questions focused on identifying the educational needs, skills, and abilities needed to effectively exercise authority, as well as the existence of a need for a master's study.

The study provides information on educational needs in all fields of knowledge, but the article focuses on psychological and pedagogical needs. Specialists need this knowledge to deal with issues such as assessing the impact of family dysfunction on children's upbringing and development, the impact of institutionalization on future life, the degree of child attachment, or identifying signs of violence and abuse in foster care. In many cases, it is the psychological and pedagogical competence that allows the guardianship authorities specialists to justify and make decisions, especially in situations of legal uncertainty, such as when a child is removed from the parents when the family's resources and the possible consequences of abandonment or removal have to be assessed.

The target group was managers and specialists from all federal districts of the Russian Federation, with a total of 1,080 people, of whom 1,050 were women and 30 men. The average age of specialists is 41.1 years, with a minimum age of 20 and a maximum age of 69 years. The length of service in guardianship: average — 7.1 years, minimum — up to 1 year, maximum —41 years.

Quantitative and qualitative methods were used to process the data obtained.

Results and Discussion

Job specifics. The specific features of the work of the guardianship authorities specialists include, above all, the need for a vast amount of knowledge, which includes not only law but also pedagogy, psychology, management, medicine, and economics. Sometimes one specialist (this is common in remote areas) exercises all the powers and makes all the decisions.

Despite the large amount of work, and constantly improving performance indica-

Semya G.V., Lashkul M.V., Yarovikova O.A. A Comprehensive Approach to the Professional Development
of Specialists of Guardianship and Guardianship Authorities in Relation to Minors
Psychological Science and Education. 2022. Vol. 27, no. 6

tors (reduction in the identification of orphans, increase in family placement, etc.), the image of guardianship authorities specialists is extremely low, mainly due to the media, which prefers to cover the activities of guardianship and custody bodies negatively [4].

The study's findings on the psychological state of professionals suggest that more than 70% of specialists experience symptoms of chronic fatigue syndrome. Every second interviewed specialist feels signs of emotional burnout syndrome, which is accompanied by apathy, indifferent attitude towards clients (children, families), social alienation, and reduction of work efficiency.

Most often, psychological problems arise from the conditions and content of work: strenuous routine work and inadequate wages, interaction with dysfunctional families with aggressive parents and parents with, for example, open tuberculosis, and various mental and other illnesses, which often lead to stress. In remote and inaccessible regions, to check the living conditions and upbringing of orphans in substitute families, a specialist has to fly in a helicopter or travel by snowmobile and wait for transport back for a long time. In the questionnaires, guardianship authorities specialists talk about the variety of problems that they have to deal with on a daily basis, the urgent visits made upon being notified of a child's disadvantage, and the responsibility to decide whether a child can remain with the family, participation in highly conflictual divorces in courts and the issuing of numerous permits for transactions with the property of the wards. All of these add to the psychological and emotional strain and lead to burnout in the workplace. An additional stressor is the extremely low public image of the guardianship authorities specialist.

At the same time, they do not receive psychological support and assistance on a regular basis: it is possible during various in-service training courses, and participation in one-off training, including those organized by non-profit organizations.

Educational needs. In the study, the specialists described their perception of an effective guardianship authorities specialist: intelligence, active attitude, awareness of responsibility for the fate of children, positive attitude, attention to people and willingness to help them, self-confidence, optimism, and courage. A specialist strives to improve his professionalism and competence, including through participation in further training courses.

The specialists would like to acquire systematic psycho-pedagogical knowledge, skills, and abilities necessary for their work in the following areas of activity (percentage of specialists in brackets):

— on participation in courts, including pre-trial conciliation procedures (47.2%),

— on the issue of removal of a child from parents (42.2%),

— in child and family psychology (41.5%),

— in the prevention of child abandonment (41.5%)

— in the field of psycho-pedagogical assistance to children and families in difficult life situations (35.0%),

— in the prevention of abuse and violence against minors (32.0%),

— in the area of comprehensive support for foster families, including those who have adopted children who are difficult to place (children with disabilities, adolescents, siblings) (28.3%),

— in the selection of a resource family for the placement of a child (psychodiagnosis) (24.2%),

— in preparing families to receive orphans, including children who are difficult to place (children with disabilities, adolescents, siblings) (23.3%),

— in the area of support for graduates of organizations for orphans and from sub-

Семья Г.В., Яровикова О.А., Лашкул М.В. Комплексный подход к профессиональному развитию
специалистов органов опеки и попечительства в отношении несовершеннолетних
Психологическая наука и образование. 2022. Т. 27. № 6

stitute families and persons among them
(18.8%),

— in the field of psychological and
pedagogical assistance to children in insti-
tutions for orphans and children left without
parental care (16.2%).

This list of topics for specialist training
shows the high level of demand for psy-
chological and pedagogical knowledge in
practice. It should be kept in mind that the
percentage rating of educational needs is
not related to the degree of relevance, but
more to the specific activities, for example,
not all specialists have an organization for
orphans or live-in graduates in their area.

There are differences in training re-
quirements depending on the length of
service: specialists with more than 5 years
of experience indicate a need to system-
atize knowledge, while those with less than
1 year of experience are more in need of
upgrading their skills to perform their job
duties properly [19].

A qualitative analysis of the wishes for
the professional development programme
revealed the following

— Practice-oriented course disciplines
with mandatory case studies and decision-
making algorithms,

— The relevance of methodological
guidelines on the implementation of the
competencies of specialists with case stud-
ies, including legal aspects,

— The opportunity to propose their own
cases to the class and receive feedback
from the lecturers,

— The opportunity to share experiences
and best practices,

— Evening classes or on-the-job train-
ing, such as on-site training events,

— Existence of e-learning courses (re-
cordings of lectures and webinars).

An important requirement for the con-
tent of professional development pro-
grammes is the acquisition of knowledge
about state policy on the protection of
children's rights and interests and the role

of guardianship and custody bodies in its
implementation.

An analysis of the issues of interest to
specialists showed new trends: confes-
sional competencies needed to work with
families of different faiths, competencies
in the digitalization of specialists' activi-
ties, mediation skills, the ability to work in
an inter-agency and multidisciplinary team,
the ability to identify the opinion of a child of
any age on issues affecting their interests
are in demand.

A recent innovation is the creation of
resource centers in the regions that pro-
vide methodological support and advice to
guardianship authorities specialists. The
main forms of work of the resource center
in terms of the professional development
of guardianship authorities specialists are
preparation of methodological recommen-
dations, professional development courses
and training events (trainings, webinars,
supervision, etc.), conferences, round
tables, organization of methodological as-
sociations on topical issues of activity;
maintenance of a closed social network
group for sector specialists; monitoring of
educational and methodological events
held by various non-profit organizations,
foundations, university (in 39 regions).

Master's degree.

The master's programme for guardian-
ship authorities specialists is inherently
integrative, combining two models: the 'in-
consistent' (nichtkonsekutiv), as there is no
consistent undergraduate degree, and the
'upgrading qualification' (weiterbildende),
designed for people who already have
work experience [10].

In response to the questionnaire on the
necessity of having specialists with spe-
cialized training at the master's level in the
programme 'Guardianship and custody of
minors', 23.9% of heads of guardianship
and custody bodies responded 'absolutely
necessary', and another 58.6% replied

Semya G.V., Lashkul M.V., Yarovikova O.A. A Comprehensive Approach to the Professional Development
of Specialists of Guardianship and Guardianship Authorities in Relation to Minors
Psychological Science and Education. 2022. Vol. 27, no. 6

'necessary'. When asked whether they thought that completing a master's degree would help their career development, 46.5% of guardianship authorities specialists answered positively and 39% thought that it probably would not.

The motives of guardianship authorities specialists for studying for a master's degree are shown in Table 1.

When studying for a master's degree, specialists would like to:

— improve practical skills in their field of study at practical training centers during their studies — 55.7%,

— gain a deeper theoretical knowledge of the discipline —40.2%,

— master new areas of knowledge and skills — 34.5%,

— master effective legal and psycho-pedagogical techniques in work with children and their families — 32.3%,

— be capable of independent decision-making in a situation of uncertainty — 30.0%,

— have a flexible adaptation to situations, showing a creative approach to problem-solving — 23.4%,

— learn how to handle different information promptly — 21.1%,

— reflect on their own experience and professional position — 15.9%,

— form stable social ties in the professional community — 13.0%,

— design programmes and conduct monitoring and research on children's problems — 12.8%,

— gain the skill of teamwork — 9.9%,

— have a skill of public presentation of their results by means of oral presentations, speeches — 8.2%,

— analyse the results of scientific research, make decisions based on scientific evidence —6.8%.

Thus, the motives and structure of the educational needs of guardianship authorities specialists correspond to the goal of professional training in a master's degree programme of higher education as 'training

Table 1

Motives of guardianship authorities specialists for studying

Motives for studying for a master's degree	Number of specialists (%)
Need to deepen existing professional knowledge and skills	52.1%
Need for up-to-date professional training in their area of work	44.1%
Developing a new approach to professional work that addresses the problems of children and families from a resource-based perspective	34.7%
More career opportunities after a master's degree	25.5%
Need to broaden their horizons	25.5%
Desire to discover their own talents and self-fulfillment	23.6%
Opportunity to cope with a situation of emotional burnout	22.6%
Opportunity to broaden the scope of employment	19.9%
Opportunity to undertake internships at leading Russian industry organizations	17.2%
Opportunity to specialize in a new professional profile	16.0%
Training by renowned national academics and practitioners	15.3%
Opportunity to earn a higher wage after training	14.80%
Recommendations (training assignment) from the employer	14.10%
Need for a diploma in line with the job profile	7.30%
Opportunity to do science	3.40%
None of the above	4.50%

of an innovative specialist — a subject of change, able to see the problem of practice in the field of professional activity and solve it on the basis of research competence' [9].

The complexity of developing a master's degree programme in guardianship and custody is related to the need to integrate professional competencies from different branches of social sciences: psychopedagogy, law, economics, medicine, and management. The specific nature of adult education and the educational needs of the guardianship authorities specialists determine the practice of building individual educational trajectories in accordance with the educational background, experience, and personal qualities of undergraduates on the basis of a person-centered approach.

Conclusion

The basis for effective protection of the rights and interests of minors is a highly qualified guardianship authorities specialist, for whom there are currently no mandatory requirements for the level of education and/or profession, discipline, and field of training (FSES). The exemplary additional professional development programme for guardianship and custody workers, approved by the Russian Ministry of Education and Science, is now the only reference point for professional development. But the ongoing update of the guardianship authorities specialist professional standard will also require significant changes.

The analysis of educational needs and possible ways of meeting them demonstrates the relevance of a comprehensive approach to the professional development of guardianship authorities specialists, which should be built from the receiving of basic education and continue throughout working life. A place in the secondary and higher education system should be found for the training of such specialists, possibly through specialization, possibly through the training of a broader profile, such as a specialist in child protection (children's rights),

which would require the development of a new professional standard.

Specialist training in an educational organization is a complex, multifunctional, and evolving system that is united by a common goal. Taking into account the state priorities for the development of science and higher education, defined, in particular, in the Priority 2030 programme [11], the development of an interdisciplinary master's programme in two areas (simultaneously): psychology (psychological and pedagogical) and jurisprudence is relevant at present. The establishment of a consortium of this master's programme on the basis of the leading Russian universities in the federal districts will ensure equal coverage of students. The master's programme of the consortium should include dedicated budgetary places and a unified curriculum.

The professional characteristics of a specialist (profession, specialty, qualification, competence) are the starting point for employment, and it is these characteristics that undergo the greatest changes in working life and have an impact on career [1]. The current widespread system of professional development also needs to be improved, which could primarily be achieved through special training for teachers who train guardianship authorities specialists in the regions (so-called cascade training) and their software and teaching materials.

Professional development is one of the key areas in the management system, including in guardianship and custody bodies, and is closely linked with other elements of human resource management: selection, motivation and incentives, and career management [2]. Therefore, they should find their place in the regional guardianship and custody human resource development programmes.

The training system for guardianship authorities specialists involves the professional and personal self-development and self-improvement of specialists. The recent innovations — regional and national (2022)

Semya G.V., Lashkul M.V., Yarovikova O.A. A Comprehensive Approach to the Professional Development
of Specialists of Guardianship and Guardianship Authorities in Relation to Minors
Psychological Science and Education. 2022. Vol. 27, no. 6

professional skills competitions — create a favourable environment for this and address the problem of improving the image of the guardianship and custody bodies.

In this way, a comprehensive approach to the professional development of the

guardianship and custody bodies staff allows for a workforce that has a broad range of professional competencies, specific and in-depth knowledge, and strong motivation to ensure a high level and quality of child rights protection.

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Russian Child Welfare Service Professionals' Attitudes towards Evidence-based Practice and their Ideas of the Social Practice — Science Relations

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The article presents the results of the qualitative study of Russian child welfare service professionals' attitudes towards evidence-based practice. Based on a reflexive thematic analysis of interviews with the professionals from 12 social service organizations several themes have been developed and discussed: 1) evidence-based practice as an important current trend, the connection to which gives several advantages (greater attraction for donor organizations and clients, peer recognition); 2) evidence-based practice as an opportunity to master a new culture of justification and communication; 3) evidence-based practice as a search and organization of new forms of interaction with the scientific community. Russian social service professionals tend to accept the instrumental understanding of the evidence-based practice that is transmitted to them by foundations, donor organizations and the expert community, however, their image of practice as a complex activity that requires taking into account many factors and referring to various sources of knowledge can potentially become the basis for more advanced multifaceted and critical understanding of the evidence-based practice — provided the support of such an understanding, including from the scientific community.

Keywords: evidence-based practice, attitudes towards evidence-based practice, instrumental understanding of evidence-based practice, critical understanding of evidence-based practice, social practice — science relations.

Представления российских специалистов сферы детства о доказательном подходе и их ожидания от взаимодействия с научным сообществом

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В статье описаны результаты качественного исследования представлений российских специалистов-практиков о доказательном подходе. В исследовании приняли участие авторы программ и руководители 12 организаций, работающих в сфере детства и социальной защиты и участвовавших в конкурсах на включение в реестры практик с доказанной эффективностью. Сбор данных осуществлялся при помощи полуструктурированного интервью. Рефлексивный тематический анализ интервью позволил разработать несколько тем, в совокупности описывающих особенности понимания доказательного подхода российскими специалистами-практиками и их ожидания от взаимодействия с научным сообществом: 1) доказательный подход как современный тренд, подключение к которому дает ряд преимуществ (большую привлекательность для донорских организаций, расширение круга благополучателей и признание в профессиональных кругах); 2) доказательный подход как возможность осваивать новую культуру обоснования и презентации своих разработок; 3) доказательный подход как поиск и организация новых форм взаимодействия с научным сообществом. Выявлено, что российские специалисты сферы детства склонны принимать транслируемое им фондами, донорскими организациями и экспертным сообществом инструментальное понимание доказательного подхода, однако их образ практики как сложной деятельности, требующей учета многих факторов и обращения к различным источникам знаний, потенциально может стать основой более продвинутого многостороннего и критического понимания доказательного подхода — при условии поддержки такого понимания, в том числе со стороны научного сообщества.

Ключевые слова: доказательный подход, представления о доказательном подходе специалистов-практиков, инструментальное и критическое понимание доказательной практики, место научного знания в реализации практик.

Busygina N.P., Buduryan M.M., Zasimova A.V. Russian Child Welfare Service Professionals' Attitudes towards
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Introduction

The orientation towards an evidence-based approach to practice, which originally emerged in medicine, has now become a feature of social work, counselling, and education. More and more child welfare service professionals are becoming involved in the creation and implementation of evidence-based practices and are being asked to ensure that what they do meets the criteria of an evidence-based approach.

But how do professionals themselves see the evidence-based practice? According to a number of studies from different countries [8; 9; 11; 12; 13; 15; 17], practitioners are often confused about what exactly is to be considered as evidence-based practice, but their attitude is mostly positive and correlates with their level of knowledge and training in this area.

Most studies of professionals' perceptions of the evidence-based practice are conducted in a quantitative design, using Evidence-Based Practice Attitude Scales (EBPAS-50 and EBPAS-36) [4; 5; 14]. This design allows for the collection of data on large samples and the comparison of results obtained on participants from different countries or different professional areas. However, as the measurement techniques already provide some understanding of evidence-based practice, they do not allow for clarification of the participants' own constructs and thus for a deeper analysis of the specifics of their perceptions and emotional attitudes towards the evidence-based approach.

The study by G. Avby et al. in the qualitative design [6] is noteworthy in this regard. By collecting data through semi-structured interviews with 14 Swedish welfare officers and analysing them using a method close to descriptive phenomenology, the authors found that professionals differently construct the meanings of evidence-based practice. The authors have grouped these meanings into several categories, identifying five types of understanding of evidence-based practice: 1) fragmented (very deficient ideas about the evidence-based practice, evidence is understood as some general, unspecified 'quality': 'I can't say exactly what evidence-based practice is, some approach'); 2) discursive (ideas about evidence-based practice are similarly deficient, the term "evidence-based practice" is used declaratively, as a rhetorical device to convince that work is important: 'Yes, we resort to evidence, we necessarily use statistics'); 3) instrumental (evidence-based practice is associated with the use of scientifically based methods and technologies, it means using protocols, documentation and performance evaluation: 'Our work is based on scientifically based methods, we use techniques that have undergone rigorous experimental verification'); 4) multifaceted (evidence-based practice is associated with the need to refer to different sources of information — scientific studies and clinical observations: 'Evidence-based practice means that our practice reaches new, higher levels, we are not only focused narrowly on our own experience and there-

fore begin to work more productively with the client'); 5) critical (reflecting on the complexity of the evidence-based practice concept, discussing the pros and cons of its application in the social sphere, but maintaining a balanced view, emphasising the need for careful analysis of different sources of information: 'Evidence-based practice is not a method but the ability to integrate different information about the client and their problem, it is the courage to critically assess what we are doing and what we are achieving').

For us, this study is interesting not only because it shows how wide the range of evidence-based practice is understood by practitioners. We have already noted [1] that the term "evidence-based practice"often plays the role of an 'empty sign' which meaning has been the subject of much debate in the methodological literature. Professionals' attitudes are very much a reflection of the nature of this debate. We agree with the authors of the study that a multifaceted and critical understanding of evidence-based practice is both philosophically and methodologically more developed than an instrumental understanding of it. But the latter is what is often promoted when it comes to an evidence-based practice. The authors write that the prevalence of an instrumental understanding, according to which evidence-based practice is primarily the transfer of evidence-based methods and programmes into practical work, hinders the achievement of a level of reflective practice [6]. In other words, there is a paradoxical situation where the promotion of an evidence-based approach to practice "from above" (in its instrumental version) is a barrier to the development of evidence-based practice (understood in a multifaceted and critical way).

We found no studies on attitudes towards the evidence-based practice from Russian professionals. For our study, we chose qualitative design primarily to give it an exploratory, open-ended character. It was important for us to 'get the participants to talk', 'to share their experiences of being involved in the 'trend of evidence.' We aimed to reconstruct a set of their attitudes towards the evidence-based practice. Our main research questions were: how professionals and programme authors understand the evidence-based practice, its possibilities and limitations, what challenges they face on the way to evidence and how they imagine a productive collaboration with the academic community. We expected that there were blind spots, conflicting perceptions, and contradictions in Russian professionals' attitudes to the evidence-based practice, which we intended to clarify.

Participants and Procedure

Representatives (programme authors and managers) from 12 organisations working in the field of child welfare and social protection took part in the study. Their programmes have been selected for inclusion in the evidence-based practice register managed by one of the charitable foundations.

When selecting organisations, we considered:

• Geography of the project: 3 organisations from Moscow and St. Petersburg, 6 organisations from major Russian cities (Samara, Novosibirsk, Nizhny Novgorod, Yakutsk, Yekaterinburg, Khabarovsk) and 3 organisations from small cities (Kirov Region, Republic of Karelia, Tomsk Region) participated in the study;

• Level of evidence of practice, scope of work and degree of sustainability: the participants in the study were an organisation providing help to families in difficult situations, a school for foster parents, crisis centres, an organisation providing help to women with children, etc.; the practices developed in 7 organisations were assessed by experts as having medium level of evi-

Busygina N.P., Buduryan M.M., Zasimova A.V. Russian Child Welfare Service Professionals' Attitudes towards
Evidence-based Practice and their Ideas of the Social Practice — Science Relations
Psychological Science and Education. 2022. Vol. 27, no. 6

dence, those developed in 5 other organisations as having a high level of evidence;

• Organisational status and funding features: professionals from 9 non-profit organisations, 2 charitable foundations and 1 state organisation took part in the study.

We tried to involve organisations of different status, working conditions, etc. to ensure a diversity of positions in the sample, homogeneous by the main parameter for us — the degree of familiarity with the evidence-based approach to practice: representatives of all organisations participating in the study took part in training programmes teaching evidence-based practice, attended seminars or conferences on the evidence-based approach, etc. The relative homogeneity of the participants' group in terms of familiarity with the evidence-based approach made it possible to reach the "saturation point"[1] within ten cases [3]. In discussing the results, we will touch on the limitation of conclusions due to the particularities of the participants' selection.

Data collection was carried out using a semi-structured interview method, lasting between 45 and 80 minutes. We asked respondents about their activities, the set-up, history of their organisation, practices, methods, and technologies they had developed, their participation in the best practice selection competition; separately, we asked them how they understood the evidence-based practice and the relationship with the scientific community.

The interviews, with the respondents' consent, were recorded and then transcribed using "soft" forms of transcribing (verbatim but without dividing the text into sections and without using special signs to convey the expressive side of the speech) [2]. The analysis of the tran-

scripts (about 200 pages of text) was carried out using a reflexive thematic analysis involving open coding and the development of themes based on the resulting codes [7; 16].

Results

Based on our analysis of the data collected, we have developed several major themes that together describe professionals' understanding of the evidence-based practice and their expectations of engagement with the research community.

Turn to evidence: Connecting to a trend, a 'quality mark'

One of the main themes found in the interviews is related to the idea of evidence as a kind of modern trend. Connecting to it provides reassurance and certain conveniences for the practice development.

Interestingly, the evidence-based approach for respondents is primarily about making evidence for the programme, practice or technology they are engaged in to meet the criteria of practice registers, but it is also about using those methods and technologies in their work (mostly Western ones) that are labelled as 'practice with proven effectiveness.'

Being on the registers, according to respondents, allows for several tasks. First, it ensures that the target audience has increased confidence in the practice:

'By and large, being on the register is a quality mark, in other words, on the forehead [...] Accordingly, I don't need to initially prove to the parent that we are working effectively, that we are working qualitatively.'

Secondly, it makes finding funding easier:

'This is the evidence-based approach to persuading potential donors, this is for

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[1] That is, states of relative completeness of information when a subsequent set of respondents brings no new information and their reported data fall within an already identified structure of categories or themes [10].

Бусыгина Н.П., Будурян М.М., Засимова А.В. Представления российских специалистов сферы
детства о доказательном подходе и их ожидания от взаимодействия с научным сообществом
Психологическая наука и образование. 2022. Т. 27. № 6

both the grant-giving organisation and the authorities.'

All respondents stressed in a different way how more comfortable they have become with applying for grants as a result of the practice register requirements:

'*Being on the register has made it much easier for us to write some grant applications, for example. That is, we can attach links where our detailed descriptions and mechanisms of action are drawn up, i.e. this is sometimes enough to make ourselves known somehow, rather than having to do it all over again.*'

One respondent very accurately describes the link between funding and performance, an evidence-based practice is understood here to be synonymous with effective performance, with connecting to the evidence trend helping to develop a common language and building relationships between those who give money and those who ask for it:

'*The experience of working with business has accustomed us to speaking the language of efficiency [...] I was very impressed to see the difference between how business spoke three years ago and how it speaks now, in the context of efficiency, evidence-based approach, general focus on NGOs, on joining forces, on creating really big and socially important projects.*'

Thirdly, being on the registers helps to position oneself as a successful professional and improves one's reputation among peers*:*

'*This takes us to some other level of positioning among other organisations.*'

'*Since we cooperate a lot with the governments of our city and other regions, we can say that the knowledge or data that we pass on, what we share, they have this kind of support—it certainly has an effect on reputational capital, too.*'

'*Since we joined the register, we've just been talking about it on every corner. This greatly enhances, shall we say, the cred-*

ibility of the organisation in professional circles. This is such a quality mark for an organisation that works in child welfare.'

It should be noted that the topic of evidence-based approach comes to practitioners from outside, from experts at foundations and donor organisations with whom practitioners collaborate, but very quickly becomes attractive to themselves:

'*And we were invited to a kick-off conference in Moscow, where we were just told that monitoring and evaluation would be a trend for the next 10 years. And I remember thinking at the time, "What do you mean by these words? It's not clear at all what it is." But it fascinated me so much and I wanted to dive into it somehow, to learn more about it.*'

To summarise, evidence-based practice is associated by professionals primarily with the ability to deal more productively with critical issues of funding, grant applications, controlling the flow of beneficiaries, visibility, and recognition of their work. Although the topic of the evidence-based approach comes to practitioners from the outside, when they get into this trend and meet the need for evidence-based practice dictated by foundations and donor organisations, they discover a number of insights and benefits in the process.

New culture of reasoning and communication

Respondents note their interest in explaining, investigating, and evaluating their practice as a result of the turn to evidence, which has emerged or intensified.

Most respondents noted that it is only by going the difficult and long way to describe their practice according to the standard of evidence-based practice that they have experienced what might be called a 'research taste.' They emphasise that by engaging in the required description of practice, they have become much more aware of exactly what they are doing and what in their activities can 'work':

'So, naturally, while you're working on the evidence, you'll systematise it, you'll lay it out and you'll know yourself where what is, where the right thing is, so maybe something unnecessary will go away.'

'It's all as if it's about having a very clear understanding of our activities. That is, there are really results of our activities, we can show them and tell about them. And that we understand how it works.'

Immersing practitioners in research, carried out partly in-house or by independent researchers, clearly gives practitioners confidence and supports their self-esteem as they get to see the results of their work:

'We have 90% of families who have kept their children. And when we can explain this, tell how we achieved this, then this is something about the reality, about the fact that we can really help, about the fact that we are changing the world and helping people. When these statements are supported by real examples and real figures, it becomes more meaningful stories, I think. For me, this is the evidence-based approach.'

Several times, the professionals we spoke to compared the way they understood and presented their activities before with the way they do it now:

'The way it used to be—we could talk passionately and emotionally', now *'there are formal points in the work, control points that can be measured over and over again.'*

The culture of reflection and presentation of practice itself is changing; professionals definitely enjoy immersing themselves in it and mastering it, even if they encounter difficulties along the way:

'Social work was and still is assessed by some emotional and moral categories — it is good, it is charity, and it should have nothing to do with numbers and specific indicators, and so on and so forth. Earlier in our sphere, it seemed: what evidence, what figures?! I'm already saving a life, and

you're here with your figures! I don't care about figures at all!'

'If we show that we have a practice that is recognised, conditionally speaking, at least in Russia, it has a level of evidence, that we have a result, it is not our blah-blah-blah, it is not our beautiful words of a psychologist at meetings. It's here, take the documents and check it out!'

However, some of our respondents say that they have also carried out research before, for example collecting feedback from the parents of the children with whom they have worked and adjusting their work according to the information received, searching for theoretical material on which to draw in practical work. It cannot be said that, from within their practice, professionals have not had the need to refer to scientific knowledge and research findings. However, they do not seem to label such a process of practice as evidence-based. They associate a pure history of practice description with the evidence-based approach, according to the standard evidence-based practice and external evaluations of performance.

Some respondents emphasise that by getting involved in this case, they have learnt to present their practice better rather than somehow changing the nature of their work:

'We recently joined the register of evidence-based practices, but we were working just as well before that. We are better now in terms of methodology, descriptive terms.'

Others show that, through systematisation, evaluation, and interaction with representatives of the academic and professional community, they have started to ask different questions and have changed their perspective on their own work and its results:

'So you don't need to prove that you had 15 families [...] But what actually changed qualitatively due to those events that the family attended, due to those

Бусыгина Н.П., Будурян М.М., Засимова А.В. Представления российских специалистов сферы
детства о доказательном подходе и их ожидания от взаимодействия с научным сообществом
Психологическая наука и образование. 2022. Т. 27. № 6

classes, trainings, some other forms of assistance — that, of course, had to be done.'

'Earlier, perhaps, we even used to count more, assessing our activities more on the basis of quantitative indicators, such formal ones. I mean, we had ten consultations and five events. What happened as a result of these events? We kind of automatically count that parental competence has increased thanks to our parent schools. And how do we know that they have really improved? And how do we know that they have really increased thanks to our parent schools?'

Engaging with science: Networking, mentoring and partnerships

The need to 'be evidence-based' encourages professionals to turn more to members of the scientific community and evaluators — i.e., those who are competent to conduct research and who can therefore help to provide evidence of their effectiveness. While at the beginning of the process, when a practice, programme or technology is taking its first steps, professionals often carry out evaluations in-house, later on, as the practice matures, the demand for external research increases. Talking to researchers helps to recognise problems and map out ways for development:

'The researchers' feedback helped us understand what other blind spots there are [...] we realised that we need to do a lot of research work, for which there are, unfortunately, not so many resources available at the moment.'

It is likely that professionals have more than a purely pragmatic request for evaluation. We would say that our respondents express an underdeveloped need for contacts with researchers — they are, in their words, 'keen to learn a lot.' Apparently, how this learning will relate to practice is not clear to all of them. However, we can think that they intuitively grasp that interac-

tion with researchers can be a resource for them to develop their practice.

This is how one of our respondents describes her interest:

'I even had this idea of going to our university. I once met the Vice-Rector there and he said that they were doing studies on different topics with students, that, like, come to us, we're ready. And I even wanted to, I thought I'd come and ask them to do some studies for us. It was just so interesting. And then we got acquainted with the N Foundation, and somehow, they have closed our need. But now we are very interested because we want to measure, research and study so many things, our professionals have no knowledge, no competence, no time, no energy to do this, and local universities, teams, I don't know, how competent they are in our field, so we are very interested, we would like to do it, it would be great.'

We note that the respondent emphasises the impossibility of doing research on her own, but who exactly she wants to see in this role, how interaction with them can be organised — all this remains very uncertain to her. She expects suggestions and wants to see some counter-interest from those involved in research, rather than being prepared to voice a specific request.

It is not uncommon for professionals to be outspoken about their lack of knowledge, which they try to compensate for through communication with their peers. Sometimes there is a talk of possible mentoring, supervising or the need for a dedicated science-related employee. Practitioners realise that they are missing something in their own information-gathering, monitoring and evaluation activities, but they have no idea how the task could be set or what kind of knowledge could in principle be sought:

'The only good thing we do now is monitoring. We just monitor, we collect information, we do questionnaires in terms of the problems of women who come to us:

Busygina N.P., Buduryan M.M., Zasimova A.V. Russian Child Welfare Service Professionals' Attitudes towards
Evidence-based Practice and their Ideas of the Social Practice — Science Relations
Psychological Science and Education. 2022. Vol. 27, no. 6

how many women live here, from which districts. It's just purely statistical. What is their age, what is their social status, married, how many children do they have, not married, what kind of marriage do they live in, employed, not employed. That's just a collection of information, that's all. Such an ongoing activity, but to improve it, we need someone to help us, the scientific community. It is difficult to do as an assignment, as a request, very difficult. We ourselves can't understand this — it's not very good, I guess.'

'But, of course, most of the time we lack knowledge, not enough of it. And we are literally looking for something by bits and pieces, we find something on the Internet, most of the time, of course, it's conferences, it's professional meetings, communication with colleagues.'

'Of course, we would appreciate the cooperation. Of course, we would like it, yes, but what kind of request to make from us... Well, it's difficult for me. How could they (the scientific community — authors) help us? We need it, but I don't know how.'

However, it cannot be said that professionals position themselves in relation to the scientific community only in the 'student-teacher' hierarchical model. In most cases, they want to build relationships with representatives of the 'academy' as equal partners, each with their own set of competencies. All our respondents emphasise that practical work has its own specifics. Practice is a very complex, confusing, and uncertain area, so not everything that is expected to work in theory will also work in practice. And it is very important for practitioners that 'academics' share this view and do not present their knowledge as the ultimate truth.

The story of one of the respondents is very revealing in this regard:

'I once spoke in front of the scientific community, and I wasn't really heard or understood. That is to say, the questions such as "Did you have a control group and why are you giving these results" shocked me a little, and I tried to explain. What control group? Two families were placed in a crisis unit and two families were not placed in a crisis unit and were told: well, let's do it ourselves, and then we'll show the effect that we're working, yes? How is that supposed to happen? Well, it's like, you know, from the category of trying to teach you something, but in general you already sort of know something in general and even understand that it will probably not work in practice, that in real life, it is a little bit different. And in response, they do not understand you a little, you know... And it turns out that, as it were, theory somehow gives something to practice, but the theory doesn't change, it doesn't receive feedback from practice. It would be great if there was some kind of interchange. That is, we study new theories, implemented in practice, and the theory, looking at how it happens in practice, also changes a little.'

As can be seen, the respondent emphasises that the academic community sometimes assumes a dominant expert position in relation to practitioners and is not prepared to recognise that they are experts in their field as well.

Meanwhile, professionals can offer the 'academy' interesting forms of cooperation, such as running practice-oriented courses in higher education institutions. In a number of cases, such projects have succeeded, and professionals appreciate such experiences:

'We have conducted and plan to continue a joint project with the medical university when we trained doctors and students for a year in interaction with families with special children: how to communicate the diagnosis, how to interact with parents, how to conduct an appointment with a special child, what methods of alternative communication can be used, how to communicate with them in general. In oth-

Бусыгина Н.П., Будурян М.М., Засимова А.В. Представления российских специалистов сферы
детства о доказательном подходе и их ожидания от взаимодействия с научным сообществом
Психологическая наука и образование. 2022. Т. 27. № 6

er words, they taught things that medical schools do not normally teach doctors. It was a very useful project for the university and for us because it was such a complementary experience.'

We would also like to draw attention to another important point articulated by professionals in relation to possible forms of partnership with the scientific community. Here is a reflection of one respondent (we heard something similar in essence, but in other areas, from other respondents as well):

'When we work, we see some things in our practice that are not very well-grounded. For example, the story about the myths in society, that a mother with mental disabilities cannot bring up children. It seems to me that if there is some research, some information that, in fact, it is not true, if there is research by the scientific community about the fact that a mother with mental disabilities raises children… yes, there may be some difficulties, still, there is an attachment formed, everything is normal, then it seems to me that this is just one such option, very cool, when we confirm our opinion with scientific data.'

The fact is that, by virtue of their immersion in people's lives and problems, professionals are able to grasp the pains of society far better than desk-based academics. Researchers, on the other hand, are able to verify and support such observations with their own tools. In this sense, a partnership between practice and science, involving the attentiveness of representatives of the scientific community to the view of practitioners, can contribute to the sociocritical/transformative paradigm in science and promote social change.

Discussion and Conclusions

A thematic analysis of the interviews with professionals in the social sector helped to clarify some of their attitudes towards the evidence-based practice. Professionals understand the evidence-based practice as an important modern trend, which they see as having a number of benefits: helping them to fund through greater appeal in the eyes of donor organisations, broadening their target audience and gaining peer recognition. Although professionals have monitored their activities and conducted some research on their effectiveness in the past, it was their participation in competitions to be included in the evidence-based practice registers and their increased familiarity with the evidence-based approach that the foundations and organisations were promoting to them that encouraged them to undertake more systematic research, including the involvement of external researchers. Most respondents note that their own perspective on what they do has changed: they have adopted a new culture of an evidence-based approach and the presentation of their practice.

We found the topic of child welfare service professionals' attitudes toward their interaction with academia to be the most meaningful. Research helps practitioners make sure that their work is important. We interviewed those whose organisations passed the competition and received high marks from experts. It is clear that the research data they presented (many of them carried out by external, independent teams) indicated that their work was quite effective. Perhaps this is why quite a lot of our respondents talked about the importance of such assessments. We do not have the opinion of those who did not receive such high ratings from the experts. However, it is reasonable to assume that practitioners attach this meaning to research — for them, it is primarily a means of adding value to their work and using the findings for self-promotion.

At the same time, we also detect a different attitude to research, unrelated to the pragmatics of self-promotion, although it is not explicit, and we can only

Busygina N.P., Buduryan M.M., Zasimova A.V. Russian Child Welfare Service Professionals' Attitudes towards
Evidence-based Practice and their Ideas of the Social Practice — Science Relations
Psychological Science and Education. 2022. Vol. 27, no. 6

reconstruct these meanings from the context. Respondents in a different way showed an interest in having research embedded in their work process — perhaps to help them answer questions related to the organisation of practice, or perhaps a more general need for knowledge was behind this interest, and the researcher was perceived as the source of that knowledge. If we have correctly reconstructed the meaning configurations of the respondents, then accompaniment, mentoring, is not only an aid to the 'right' presentation of the practice but also a resource for development.

We note the flexible and diverse positioning of practitioners in relation to representatives of the 'academy.' On the one hand, they perceive them as experts whose function is to educate and judge. But on the other hand, it is important for practitioners that their voice is heard and, furthermore, that they can act as equal partners who have their own area of expertise. In our view, it is unfortunate that members of the academic community do indeed sometimes take a dominant position in relation to practitioners, willing to share knowledge (including methodological knowledge), but not willing to question it in front of and with practitioners. Although it is precisely the critical attitude towards oneself and the internal mechanisms of self-correction that are an integral part of the institution of science. How to build cooperation between science and practice is one of the main questions that can only be answered through dialogue. In our view, practitioners have something to offer the 'academy' — not only practice-oriented courses that are developed and run jointly with university staff but also knowledge itself, gained in practice, which, when tested and systematised through the application of the scientific method, is able to contribute to social change.

We did not typologise the respondents' answers but conducted a 'cross-cutting' analysis of the data received as a whole, trying to develop themes that would reflect general trends in the respondents' attitudes towards the evidence-based practice. However, if we relate the reconstructed views to the types of understanding of evidence-based practice described in a study by G. Avby et al. [6], we can see that our respondents tend to give the evidence-based practice the instrumental meaning promoted to them by foundations, training programmes, etc.: for them, the evidence-based practice is primarily about testing effectiveness of their work, preferring methods and technologies labelled as 'evidence-based', and presenting their own developments as required by the standard. Professionals agree that this is what practice should be, but they also outline a slightly different image of it as a complex field that is primarily values-based, involving the ability to act under conditions of increased uncertainty, using all available knowledge — both external, derived from literature, research, communication during conferences, and born from within the practice itself. The somewhat confusing definitions of their own activity benchmarks by the professionals can be interpreted as them being stuck at the level preceding the level of evidence-based practice or rather in the realm of transition. However, we believe that their image of practice contains features that have the potential to form the basis of more advanced multifaceted and critical understandings of the evidence-based practice — provided there is support for this understanding, including from the academic community.

In conclusion, a few words about the limitations of the study. The themes we have described are repeated many times in the interview material and, as we have

managed to understand from their discussion at two conferences and meetings with professionals, are quite recognisable to the audience. However, similar results can only be expected from those professionals who in a different way have become involved in implementing the evidence-based approach promoted by the Russian founda-tions and organisations that announce a competition to be included in the register of practices with proven effectiveness. Of course, the field of child welfare is much broader and other groups of practitioners are likely to have different attitudes and perceptions. We will leave this to the future to be clarified.

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Busygina N.P., Buduryan M.M., Zasimova A.V. Russian Child Welfare Service Professionals' Attitudes towards
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