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### **ABOUT**

- The scientific Education & Pedagogy Journal aims to make the results of scientific research and practical activities in the field of pedagogy of education mutually accessible to international and Russian specialists.
- The founder of the journal is Tomsk State Pedagogical University.

#### **The journal publishes:**

- Original articles in English dealing with the most pressing problems of theory, practice, philosophy, and history of education. In addition, authors are given the opportunity to publish Russian translations of these articles in other TSPU journals.

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## EFFICIENCY OF DIGITAL EDUCATION: FROM GOALS TO RESULTS (BASED ON THE XIII SUMMER SCHOOL FOR TEACHERS-2023)

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**Abstract.** More than 3,000 people from 333 cities and 1,039 educational institutions participated in the next Summer School for Teachers-2023, organized by Yurait Publishing's educational platform and held in webinar mode from June 26 to 30, 2023. 75 speakers gave presentations and panel discussions on the following topics: the effectiveness of digital education, the quality of digital education, the strategic goals of universities, the choice of the goal of an educational program, youth in Russia: demographic situation and prospects, evidence-based education based on digital data, rational management (analytics in educational management), storytelling and development of educational cases, use of ChatGPT by students in educational activities, personality in the digital reality of the virtual world: from Homo Sapiens to Homo Digital, digital educational environment: shared resources and individual paths, psychologically comfortable educational environment, digital scientific environment (current risks and new opportunities), ChatGPT for the teacher (free tools and digital activity of teachers, students), consideration of personal achievements as a path to student success, technological entrepreneurship (engagement, training, support). As a result of XIII Summer School for Teachers, we note that digital education is not a substitute for traditional education but is necessary for working with today's youth. Digital technologies will not replace live communication with the teacher; they will become the most important tool for shaping the individual educational path; individualization will become the sign of quality education. The digital transformation of education should consider the best practices and provide the teacher with a wide range of technologies, services, and content to choose from because variability and flexibility are more important than standardization at this stage. It is necessary to update legal and ethical standards in the context of changes in the digital education and science environment and the development of artificial intelligence. It is necessary to develop teachers' digital literacy, introduce hybrid learning models, and develop educational effectiveness assessments; the assessment system should move from learning assessment to the development of student's analytical skills and systemic thinking. Artificial intelligence and chatGPT are a serious challenge for the levels and the education system as a whole. The educational institution of the future should become an engine for the socio-economic development of the country.

In this review, we will focus on individual topics and speeches.

**Keywords:** *efficiency of digital education, trend, digital education environment, artificial intelligence, digital technologies, digital literacy, hybrid learning models, assessment system, personality in digital reality*

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More than 3,000 people from 333 cities and 1,039 educational institutions participated in the Summer School for Teachers-2023, organized by Yurait Publishing's educational platform and held in webinar mode from June 26–30, 2023. Seventy-five speakers delivered lectures and participated in panel discussions.

The report by A.S. Fadeev, Vice-Rector for Digitalization at TPU, set the terminological and content paradigm for all five days of School of Teachers-2023, which was dedicated to the quality of digital education.

The speaker focused on the technologies that will change the world of preschool education in 2020. These technologies have blown up the world of education: adaptive learning technologies; AI/machine learning – pedagogical applications; analytics for learning success; increasing the level of instructional design, engineering education, and UX design in pedagogy; Open Educational Resources; XR technologies (AR/VR/MR/hapticity). All six trends were exclusively digital.

The speaker pointed out the educational trends according to the post-COVID-19 situation. These include Distance learning, the Growing digital divide, Deteriorating mental health, Rapid technological development, Widespread adoption of hybrid learning models, Widespread use of technology in education, and Developing teachers' digital literacy. In our opinion, the trends for 2022–2023 are interesting. The speaker referred to artificial intelligence in education analytics, artificial intelligence as a learning tool, microdegrees as a threat to higher education, (re)adoption of hybrid/distance learning methods, (re)training of teachers for/distance learning, and hybrid learning spaces. The speaker stated that microdegrees are a global challenge. Young people refuse to study at university, preferring to take 2–3 online courses with a continuing education certificate and enter a profession. The education community is not prepared for such a scenario. The report states that the methods and techniques of online technologies need to be revised and raises the question of whether it is not possible to provide quality teaching in a hybrid format in a regular classroom. A.S. Fadeev referred to the following approaches to evaluating the effectiveness of digital education:

1. Assessing learning outcomes achieved through digital technologies in the classroom (student progress, knowledge levels, participation in science Olympiads and competitions).

2. Analysis of the use of digital technologies to enhance learning (effectiveness of online courses, distance learning platforms, electronic textbooks, and other digital tools).

3. Survey teachers and students on the effectiveness of using digital technologies in the educational process. The effectiveness of digital education depends on many factors: the quality of educational resources, the availability of technology, and the motivation of teachers and students in the educational

process. Thus, a comprehensive analysis is needed to assess the effectiveness of digital education.

The speaker also talked about using artificial intelligence (from now on referred to as AI) in education. AI can create tests, evaluate student knowledge (test automation and saving time in creating and reviewing them), and analyze student behavior data. AI identifies the most interesting topics for students as well as the difficulties they have in learning. Using this data, teachers can plan lessons more effectively. AI creates virtual assistants that help learners comprehend material more effectively. AI can be used to develop robotic assistants that help students complete tasks (e.g., solving a math problem or explaining complex issues). AI uses chatbots to communicate with humans. They can be used in education to answer student questions and provide additional information. AI will be able to grade student work automatically (saving teacher time and making the grading process more efficient).

Digital and traditional education have their advantages and disadvantages. Digital education allows learners to access information and materials anytime, anywhere, facilitating learning and improving quality. At the same time, learners interact less and less with teachers and each other, which can affect their socialization and communication skills. On the other hand, traditional education provides closer interaction between students and teachers and the opportunity to gain knowledge from experienced teachers. Traditional education is more expensive and less flexible than digital education. In general, the choice between digital and traditional education depends on the specific needs and goals of the education. If learners need anytime, anywhere access to information, digital education may be the best choice. Traditional education is preferred for close interaction between teachers and students and to gain knowledge from experienced teachers.

The speaker pointed out the digital skills that teachers need to be taught: the ability to work with different platforms and services to organize the educational process (Google Classroom, Moodle, Zoom), knowledge of the basics of programming and website development to create interactive lessons and assignments for students; the ability to create and use multimedia materials (video tutorials, presentations, interactive assignments); skills in using social networks and blogospheres to share experiences and information with colleagues and students; ability to use cloud services for storing and sharing files and documents; knowledge of the principles of security on the Internet and protection of personal data of students and colleagues; communication and cooperation skills with colleagues and other participants in the educational process; the ability to adapt to new technologies and teaching methods to constantly improve the quality of the educational process. Analysis of data from the online platform makes it possible to determine the effectiveness of a course or training program (success in student mastery of material, evaluation of effectiveness of teaching methods, evaluation of student satisfaction, identification of problems and deficiencies, identification of best practices and trends in education, effectiveness of marketing campaigns, effectiveness of advertising methods, improvement of marketing strategies, research of student



behavior patterns, student activity on the LMS website, identification of the most popular website features, improvement of the user experience).

The speaker pointed out the problems in the educational systems of the world: Division into subjects, i.e., there is no unified picture of the world, lack of individuality, lack of system to measure the quality of education, lack of independent evaluation system (one teaches, another evaluates), lack of personification of responsibility, i.e., the leader of the educational program, lack of responsibility of the professional community, lack of engagement (hobbies) in learning, lack of conformity to the demands of the market/life, learning technologies, not creativity and its creation.

One of the panel discussions on the first day of the school was devoted to the strategic goals of universities. There are 717 universities in Russia today, each unique in its history, scientific school, faculty, and student body. Strategic goals allow each university to chart its course and performance benchmarks. University leaders from Moscow, Orel, Novgorod, and Novosibirsk participated in the discussion on the following topics: positioning of the college, long-term strategic planning, analytics for setting goals, relationship between pedagogical, scientific and educational activities, updating strategic goals, openness and publicity of goals, balance between feasibility and ambitious goals, tracking the achievement of set goals.

Experts participated in the panel discussion on “Choosing the goal of the educational program: getting a job or finding a dream”: candidate of historical sciences O.G. Savka and vice rector of research and innovation of the Arctic State Technical University K. Nifontov. They spoke about the following topics: Goal setting in the context of developing and promoting an educational program, the impact of program goals on program popularity and motivation to learn, stakeholders of educational programs, employment and career goals of graduates, personal development and growth goals, academic goals, measurability and achievability of goals. Modern educational programs tend to have two poles. Some are very practical, focusing on specific useful skills in finding employment. Others are more general, have a liberal arts framework, and focus more on soft skills.

The panel discussion “Digital scientific environment: current risks and new opportunities” addressed the following topics: digital transformation of scientific activity, digital solutions for managing scientific activity at universities, access to databases of publications, data, scientific citations, specialized software, remote access to scientific equipment, distributed computing, services for coordinating the activities of scientific teams, artificial intelligence tools, machine learning and Big Data analysis, popularization of scientific achievements and involvement of young people in scientific activities. In Russia, over 300,000 scientists publish more than 100,000 scientific articles per year. Scientific activity requires an effective digital infrastructure to ensure the availability of scientific information, the efficiency of research, and the acceleration of the implementation of developments in production.

In this School of Teachers, a discussion was held on “Digital educational environment: shared resources and individual paths,” which raised the

following issues: the concept of a digital educational environment, investment in the development of a digital environment, individual educational paths in a digital environment, the requirements for a digital environment of teachers, students, and administrators, the organization of the digital educational process and the collection of reports, digital educational content. Various programs to develop the digital education environment aim to accelerate the digital transformation of the education system, upgrade equipment, and improve digital services and educational content. The environment is unthinkable without those who teach and learn in it – teachers and students.

In the report of Professor Doctor of Pedagogical Sciences M.E. Vaindorf-Sysoeva on the topic: “Accounting of personal achievements as a way to teachers’ success,” the following topics were covered: Methods and criteria for diagnosis of individual abilities, online digital diagnostic services, digital portfolio of students, analysis of personal achievements of students, construction of individual educational pathways.

The main goal of individual ability diagnosis is to determine the student’s individual characteristics and help him or her choose the most appropriate educational path for skill development and effective employment. For students to succeed, the teacher must find in them what they do not know about themselves. According to the speaker, digital education is not a substitute for traditional education, but it refines the process and allows individual, personalized, and, at the same time, massive work.

Doctor of Physical and Mathematical Sciences V.A. Antonets presented a report on the possibilities of artificial intelligence available to the teacher. The explosive interest of society, business, and the state in the possibilities of artificial intelligence, triggered by the spread of ChatGPT and similar services, has not bypassed the academic sphere. Some teachers fear the displacement of face-to-face forms of education by artificial intelligence, the decline in the quality of education, and various ethical conflicts. Enthusiasts, on the other hand, emphasize the advantages of AI in creating teaching materials and assessing competencies. The speaker talked about the adaptation of teaching methods to the advent of AI and the technical, psychological, and ethical limitations of AI in the academic environment.

In a conversation with a doctor of economics, E.A. Kameneva, and a doctor of history, O.V. Pavlenko, on the topic: “Competence audit: objective diagnostics, assessment and certification of knowledge in the digital age,” the following topics were discussed: the goals of diagnostics and certification of students, the impact of assessment on motivation to learn and work, the objectivity of assessment, independent assessment of the quality of education, mutual assessment of students among themselves, academic fraud and proctoring, the digital bank of assessment tools, the assessment of practical skills. The digital transformation of education has challenged the effectiveness of traditional assessment. New messengers and ChatGPT allow students to bypass traditional deadlines for completing current and midterm exams, leaving employers in doubt about graduates’ qualifications.

Candidate of technical sciences I.V. Belyanin presented a report on visualization in teaching. Students can better understand and remember information by visually linking it to certain images and associations. It can also control the flow of information and highlight the essentials, which is especially important in the media oversaturation of the modern world. Visualization should serve the set methodological goal and not distract from the learning process. During the presentation, the speaker addressed the following topics: Preparing a presentation for teaching, developing infographics for teaching, recording and editing educational videos, animation in teaching, VR/AR, its possibilities and limitations, and intellectual property rights in visualization.

Candidate of Pedagogical Sciences A.D. Ivanova presented a report on personality in the digital reality of the virtual world. The report talks about information bubbles. The author understands an information bubble as a personal micro-internet – a personalized information space that includes Network algorithms that analyze reposts, requests, likes, and comments; Internet services that store and form a separate newsfeed for each account. A person “sees” only what he or she is interested in.

The danger of “information bubbles” is that they can be adapted not only to the interests of a particular person but also to please external forces. Today, each generation has its own information field. A distinction is made between generations: Baby Boomers born 1944–1962, Generation X 1963–1980, Generation Y 1981–1995, Generation Z 1996–2009, Generation Alpha 2010-to date.

The report notes the digital characteristics of modern life:

- Information (unlimited access and the main product of consumption); transparency (physical: geotagging, video surveillance, social networks; internal: subscriptions, likes, reposts, reviews, comments, social networks; financial: transactions, online transfers, social networks).

- Internet (borderless search field for like-minded people); transition: from the economy of production to the economy of impressions; proliferation of video games: resettlement in game worlds and virtual universes.

The speaker pointed out the digital possibilities of modern life: mobile technologies (Internet and social networks), the creation of a parallel super life (a sign of success: Likes, Views, and a Wikipedia page), unlimited possibilities (self-realization and self-development), cryptocurrency and gray information, ChatGPT. The report said that in the presence of the Internet, memorization and rote learning lose their meaning.

The speaker enumerated the digital features of the mental development of modern youth: the amount of information increases, and the concentration of attention decreases (ideal text: 280 characters + image, clip thinking, reading headlines). People who grew up with the Internet are susceptible to manipulation; they have simple and superficial judgments about the world. Philodoxy and the self-replicating spiral of dilettantism: a casual eyewitness's opinion is synonymous with a specialist's opinion.

A.D. Ivanova points out the existence of post-truth (emotional pumping). It is not important what they say, but how they say it (behavior, mannerisms,

intonation, and gestures). In modern media, everyone raises their voice, shouts, interrupts each other, and expresses emotions unnaturally and violently. The more colorful and expressive it is said or written, the more confidence the audience has. The post-truth is that personal emotions and beliefs are more important than objective facts. The speaker raises the issue of communication on the Internet. It implies equality (there are no “shoulder straps” on the Internet), simplicity and ease of entering into a dialog, anonymity (abnormal self-exposure and openness, trying on another self), a sense of impunity (atypical and inappropriate behavior, insulting interlocutors), compensation for insults, complexes, and problems of real life, an easy way to feel important and exclusive.

Reference is made to the “dark” side of the Internet: Trolling and cyberbullying.

The pursuit of easy and dubious fame, the de facto legitimization of obscenities (especially among teenagers and adolescents), and non-religious Internet sectarianism are common. Teenagers are the largest target group on the Internet. Personal self-esteem is calibrated by communicating in a circle of “personified” people – among like-minded people, Internet users have a sense of “power.” The report notes that people have always gathered in groups: Work, interests and hobbies, advantages, convenience and comfort, and the desire to stand out and compete. There will always be people with similar interests, despite the radical or “wrong” views. The speaker defines the following characteristics of Internet communities: they are formed by interests, without geographical reference, it is easy to search for like-minded people, unwanted comments are easily deleted (banned), groups “pupate” and close themselves, the fear of desocialization, ostracism or condemnation for “wrong” views disappears. The influence of pseudoscientific ideas and sectarianism on the Net is rising. Many Internet sects have formed around reasonable ideas but have become radicalized in isolation: Veganism, Vedic femininity, animal welfare, feminism, HIV/AIDS denial, bioenergy, voluntary childlessness, anti-vaxxers, and body positives. The speaker notes that the gameization of work and education is a new trend. Video games are a sociocultural and psychological phenomenon of the twenty-first century. The report raises the question of the transformative psychology of personality in the digital world. The creators of the Internet associated it with the noosphere, which unites humanity on the path of progress and development, but at the same time, it is also a way to distinguish and isolate people from each other. According to A.D. Ivanova, young people are at risk because their passionate nature, youthful maximalism, impressionability, and lack of life experience are bait for experienced “puppeteers.”

Doctor of Sociological Sciences E.A. Kranzeeva presented a report on “Youth in Russia: the demographic situation and prospects,” in which she addressed current issues related to the sociological and demographic characteristics of young people, the dynamics of the number of young people, regional features of youth sociology, the impact of demographic changes on education policy, and the impact of demography on graduates employment.

The speaker pointed out serious differences in the living standards of young people depending on the region and social group. The differences depend on two factors: the social status of their families, their financial situation, and their willingness to pursue higher education, as well as the place of residence, their familiarity with modern life and customs, and the degree of sociability. The speaker noted that access to quality education points to the technical orientation of education reform, which focuses more on market demand for acquired knowledge and skills than on broader educational goals related to life skills and social progress.

Asmontas Bronius, a candidate of Pedagogical Sciences, presented a report on the topic: “Psychologically comfortable educational environment.” According to the speaker, comfort is a condition of life, residence, and environment that provides convenience, tranquility, and comfort. “Psychological comfort” means minimizing the stress-producing factors of the educational process (if possible) and creating conditions in an educational institution that allow students to feel calm. Psychological comfort in the educational environment is a condition that occurs in the course of human life and expresses the feelings of joy, pleasure, and satisfaction that students experience in an educational institution. These are living conditions in which everyone feels calm and does not have to defend themselves against anyone. The socio-psychological comfort of the educational environment is an evaluation of a person’s subjective feelings towards the educational environment, which can act as a characteristic of the student’s adaptation to the influences of the educational environment in the physical space of the university, affecting his or her identity with the social environment, their motivation to learn, their self-esteem, their professional orientation, and the satisfaction of their need for security against the influences of the educational environment in the physical space of the university. The speaker explains that learning is a sequential process consisting of 6 phases: remembering, understanding, applying, analyzing, evaluating, and creating. In his report, he cites Bloom’s taxonomy, which helps to set educational goals properly. Based on the goals, the teacher formulates tasks for students and selects instruments for assessment. With the help of the taxonomy, the teacher builds learning, and the student not only acquires new knowledge but also learns to analyze and apply it in life. Using Bloom’s taxonomy, it is possible to assess teacher and student knowledge levels using instructional materials from electronic courses, webinars, and training. Assessment according to this taxonomy concept shows which topics are difficult for students and whether they are ready to apply the acquired knowledge in practice.

Political scientist Professor A. Niklaus devoted her presentation to storytelling and the development of educational cases. Storytelling, a technique that uses stories to achieve educational goals, is widely used in the humanities and social sciences. Using case methodology helps students think critically and apply theoretically acquired knowledge to real professional situations. The speaker talked about developing scenarios for the course, stories and their methodological functions in the teaching scenario, criteria for pedagogically

effective stories, selection of educational cases, and gamification of education through storytelling.

In his presentation, D. Deulin addressed the use of ChatGPT in learning activities. The speaker pointed out that ChatGPT is a serious challenge for the level and the educational system. Artificial intelligence technology, ChatGPT, allows us to write texts from theoretical and empirical material. Students with poor academic performance use neural networks when preparing and writing assignments (term papers and semester projects). In this way, poor academic performance is concealed. The speaker pointed out that high levels of computer addiction are associated with high-stress levels, especially among female students.

“Becoming a student as a person: Education or Self-Development” – this was the topic of the panel discussion, during which the following issues were discussed: society’s demand on the university to shape the personality of a student, a future graduate; what are the age characteristics for shaping a student as a person, selection of active, motivated students at the admission stage, students’ motivation for self-development and personal growth, individual educational paths vs. standardization of the educational process, personal development and competency-based approach, psychological support and counseling of students, disappointments and changes in the educational path, open communication environment and student community. Each person is unique in their aspirations and abilities. Completing personality formation characterizes the age of 16 to 23: finding one’s place in life, setting priorities, becoming aware of one’s abilities and limitations, and growing independence and responsibility for one’s actions. Of course, age-related changes also affect educational activities.

In the panel discussion on “Lifelong learning: improving the teaching profession,” the following topics were discussed: regulation and freedom of pedagogical creativity, new competencies of teachers, professional development under the conditions of current workload, organization, and support of retraining programs for teachers, mutual learning, mentoring and experience sharing among teachers, teachers’ practice with industry partners, effectiveness of teachers’ professional development and growth, teachers’ publication load. As Seneca the Younger said, “Docendodiscimus” (By teaching, we learn). Stagnation in a teacher’s professional development hinders the quality of education. Therefore, with the current volume of teaching and publishing, it is necessary to find time and energy for professional development.

The presentation by O.M. Naumova describes the approaches to the design of the space in the context of the introduction of the online course, the digital educational environment at the university, the approaches to its design, an online course as part of the educational space and the factors that contribute to the effectiveness of learning in an online course: characteristics of the elements, design principles, ensuring satisfaction with learning.

A report by Professor S.Yu. Kontseva on “Pedagogical blogging: learning, communication, self-development” caused a heated discussion among the school participants. The author believes that modern student-centered

education aims to help students with self-development, self-affirmation, and self-knowledge. Self-development plays an important role in the development of a future professional. It is necessary to develop new ways of self-development and determine how to increase the effectiveness of students' personal and professional self-development. According to the author, it is interesting, dynamic, and "trendy" for a teacher to be a blogger. The use of blog technology in the educational process is necessary because it motivates students to work independently, trains the ability to lead discussions, improves writing skills, organizes independent research activities, immediately applies the acquired theoretical knowledge in practice, promotes the integration of scientific knowledge, develops critical thinking, forms a terminological culture. The use of blogs increases interest in the learning process. The novelty of technology is one of the motivating factors in learning. The teacher chooses a blog because not all textbook examples can be found on the teaching platform "Electronic Information and Education Environment." The teacher is sure that the blog will help to reflect on one's own experience and find like-minded people to share with. A content plan is a way to blog regularly, think of topics in advance, and analyze what the audience will like best. The speaker claims that educational blogging helps every teacher to be heard.

Thus, in conclusion, we summarize the findings of the XIII summer school for teachers, "Efficiency of digital education: from goals to results."

1. Digital education is not a substitute for traditional education but is necessary for working with today's youth.

2. An educational institution must provide teachers and students with the content and services necessary for digital education, create a psychologically comfortable learning environment, and relieve teachers of unnecessary work through digitization and automation.

3. Digital technologies cannot replace live communication with a teacher.

4. Digital transformation of education should consider best practices and provide teachers with a wide range of technologies, services, and content to choose from. Variability and flexibility are more important than standardization at this stage.

5. Digital technologies have become the most important tool for designing individual educational paths, and individualization has become a sign of educational quality.

6. In the context of changes in the digital educational and scientific environment, the development of artificial intelligence, and the emergence of new communication channels between teachers and students, it is necessary to update legal and ethical standards.

7. Artificial intelligence and ChatGPT are a serious challenge to the level and the education system as a whole.

8. In order to improve the quality of education, it is necessary to improve teachers' digital skills, introduce hybrid learning models, and develop educational effectiveness assessments.

9. The assessment system should move from testing memorization to developing analytical skills and systemic thinking. The assessment should express not only the comparison of the student with others but also his or her personal dynamics.

10. The educational institution of the future should become an engine for the socio-economic development of the country.

Our review examined individual trends, themes, and speeches presented at the Summer School for Teachers 2023. We believe they are very insightful and stimulate all higher education teachers.

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## **ЭФФЕКТИВНОСТЬ ЦИФРОВОГО ОБРАЗОВАНИЯ: ОТ ЦЕЛЕЙ К РЕЗУЛЬТАТАМ (ПО МАТЕРИАЛАМ XIII ЛЕТНЕЙ ШКОЛЫ ПРЕПОДАВАТЕЛЕЙ-2023)**

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**Аннотация.** В рамках очередной Летней Школы преподавателей – 2023, организованной образовательной платформой издательства «Юрайт» и проходившей в режиме вебинаров с 26 по 30 июня 2023 года, приняли участие более 3000 человек из 333 городов и 1039 учебных заведений. С докладами и на панельных дискуссиях выступили 75 спикеров по следующим темам: эффективность цифрового образования, качество цифрового образования, стратегические цели университетов, выбор цели образовательной программы, молодежь в России: демографическая ситуация и перспективы, доказательное образование на основе цифровых данных, рациональное управление (аналитика в образовательном менеджменте), сторителлинг и разработка образовательных кейсов, использование студентами ChatGPT в учебной деятельности, личность в цифровой реальности виртуального мира: от Homo Sapiens до Homo Digital, цифровая образовательная среда: общие ресурсы и индивидуальные траектории, психологически комфортная образовательная среда, цифровая научная среда (текущие риски и новые возможности), ChatGPT для преподавателя (бесплатные инструменты и цифровая активность преподавателей, студентов), учет личных достижений как траектория успешности обучающихся, технологическое предпринимательство (вовлечение, подготовка, поддержка). В качестве итогов XIII Летней школы преподавателя отметим тот факт, что цифровое образование – не замена традиционному, но оно необходимо для работы с современной молодежью, учебное заведение должно предоставить преподавателю и студентам необходимые для цифрового образования контент и сервисы. Цифровые технологии не заменят живого общения с преподавателем, и они становятся важнейшим инструментом формирования индивидуальных образовательных траекторий, индивидуализация становится признаком качества образования. Цифровая трансформация образования должна учитывать лучшие практики и предлагать широкий выбор технологий, сервисов, контента на выбор преподавателя, вариативность и гибкость на данном этапе важнее стандартизации. Необходима актуализация правовых и этических норм в связи с изменениями цифровой образовательной и научной среды, развитием искусственного интеллекта. Следует развивать цифровую грамотность преподавателей, внедрять гибридные модели обучения, разрабатывать оценки эффективности образования, система оценивания должна перейти от проверки запоминания к развитию аналитических способностей и системного мышления студента, искусственный интеллект и Chat GPT – серьезный вызов уровням и системе образования в целом. Учебное заведение будущего должно стать драйвером социально-экономического развития территории.

В рамках данного обзора остановимся на отдельных темах и выступлениях.

**Ключевые слова:** *эффективность цифрового образования, тренд, цифровая образовательная среда, искусственный интеллект, цифровые технологии, цифровая грамотность, гибридные модели обучения, система оценивания, личность в цифровой реальности*

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## PROBLEMATIC SMARTPHONE USE AND ITS RELATIONSHIP TO PERSONALITY ORIENTATION, MACHIAVELLIANISM, AND COMMUNICATION SKILLS

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**Abstract.** The associations found in studies between smartphone addiction and numerous manifestations of subjective unhappiness (anxiety, depression, stress, procrastination, decreased self-control and self-esteem, dissatisfaction with life, and family problems) have led to the introduction of the construct "problematic smartphone use" and the study of its content. The study aims to test the hypothesis that there are associations between problematic smartphone use and personality orientation, Machiavellianism, and communication skills in Russian-speaking society. Data for the empirical study were collected through online testing with 713 respondents in Belarus and Russia, including 361 women aged 15–77 ( $M = 26.6$ ,  $SD = 10.9$ ) and 350 men aged 12–82. The working hypothesis was confirmed: The study showed that men's and women's problematic smartphone use is positively correlated with self-orientation, Machiavellianism, dependent and aggressive behavior, and dependence on social networks, and negatively correlated with task orientation, assertive behavior, and age. At the same time, Machiavellianism is positively related to self-orientation, negatively related to interaction with others, and unrelated to the person's task orientation.

The results on the associations between problematic smartphone use and Machiavellianism and behaviors complement similar international findings. The relationship between problematic smartphone use and personality orientation has not been studied.

The practical significance of the obtained results includes their possible use in prevention work to prevent students from becoming addicted to smartphones.

**Keywords:** *problematic smartphone use, subjective stress, personality orientation, Machiavellianism, communication skills, women, men*

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### Introduction

Smartphones greatly impact people's daily lives, changing their habits and behavior. The capabilities of smartphones are constantly expanding, and today, a smartphone is a portable computer that fits in your pocket. Smartphones have

many obvious advantages: easy accessibility of communication in personal and business situations, convenient access to the Internet and social networks, and watching videos.

Therefore, in recent years, public interest in the possible negative consequences of smartphone addiction has increased, as smartphone abuse can lead to a serious problem.

Excessive smartphone use often leads to addiction, but this addiction has been associated with many negative personality traits. To date, positive associations have been found between smartphone addiction and the following manifestations of subjective unhappiness: Anxiety, depression, stress, decreased self-control and self-esteem, dissatisfaction with life, family, health, and sleep problems, risk of being a victim of cyberbullying, deterioration of academic performance, decreased productivity, alcohol dependence, and smoking dependence. Young smartphone users and women are more prone to smartphone addiction [1].

Associations have been found between smartphone addiction and mental and physical health disorders (negative emotions, poor sleep, insomnia, low physical activity). Excessive smartphone communication causes active users to lose sensitivity in their relationships with others and the ability to empathize with others. Smartphone addiction is directly related to shyness, loneliness, hyperactivity, attention deficit disorder, procrastination, compulsive, addictive, and unruly behavior. Unmarried users are more prone to smartphone addiction [2].

A negative correlation was found between problematic smartphone use and self-control, perseverance, self-regulation, health status, healthy lifestyle, and a positive correlation with loneliness [3].

Smartphone addiction correlates negatively with self-esteem and positively with neuroticism, impulsivity, Internet addiction, the habit of using the smartphone before going to bed, and social networking activity [4], with procrastination, shyness, susceptibility to cyberbullying, and negatively with good mood and assertiveness [5].

The association between smartphone addiction and many manifestations of subjective unhappiness among the most active users led to the introduction of the term “problematic smartphone use” In a special study, the question of whether smartphone addiction (non-medical, psychological) is a disorder was investigated, whether this disorder meets the recognized criteria for addiction (similar to “medical” addictions to drugs, alcohol, tobacco), it was concluded that it is still better to use the term “problematic smartphone use” because the behavior of people who are “addicted to smartphones” is not comparable to chemical and other medical addictions. People do not become addicted to smartphones but to the opportunities that a smartphone offers: Participating in social networking, gambling, and viewing adult content [6].

### **Links between problematic smartphone use and Machiavellianism**

An analysis of the publications of O.Yu. Filippou has shown that in the last ten years, there has been a significant increase in the interest of the scientific

community in the study of the concept of “Machiavellianism” In six years (2013–2019), the same number of articles on Machiavellianism was published as in the previous 42-year period (1970–2012) [7].

Machiavellianism is a personality trait that describes cunning, the ability to manipulate, and the drive to gain power by any means necessary. [8].

K.J. Mejia-Suazo (C.J. Mejía-Suazo) et al. found that Machiavellianism contributes to conflicts related to cell phone use in a sample of 450 Hondurans, 55.33% female and 44.67% male, with a mean age of 25.52 years ( $SD = 6.79$ ) [9].

In a study conducted by S. Hidalgo-Fuentes with 202 respondents (52.48% males) aged 18 to 58 years, a correlation analysis showed that problematic smartphone use was significantly associated with all Dark Triad characteristics (Machiavellianism, narcissism, psychopathy) [10].

An online survey conducted by R. Servidio et al. (R. Servidio, M.D. Griffiths, Z. Demetrovics) included 457 respondents. Machiavellianism and narcissism were directly associated with FOMO (fear of missing out), and FOMO was associated with problematic smartphone use. The preliminary results of the present study suggest that Machiavellianism and narcissism may be antecedents of FOMO, and both may be involved in the development of problematic smartphone use [11].

The findings of S. Balta and co-authors (S. Balta, P. Jonason, A. Denes, E. Emirtekin) suggest that dark personality traits (Machiavellianism, psychopathy, narcissism, sadism, spitefulness) may play a role in higher rates of problematic smartphone use (with different traits affecting males and females differently) and that stylistic ties partially explain the association between dark traits and problematic smartphone use [12].

### **Relationships between problematic smartphone use and communication skills**

In a study by B. Serit, N. Chitak Bilgi, and B. Ak (B. Cerit, N. Çıtak Bilgi & B. Ak), 214 nursing students were shown that smartphone addiction negatively affected their communication skills [13].

Meta-analysis of a series of studies on smartphone addiction conducted by C. Osorio-Molina and M.B. Martos-Cabrera (C. Osorio-Molina & M.B. Martos-Cabrera) showed that excessive smartphone use was directly related to poor communication skills, poorer sleep quality, low self-esteem, and high social stress [14].

A cross-sectional study of medical students (502 participants, 70.9% women) conducted by U. Celikkalp and co-authors found that respondents used smartphones for an average of  $5.07 \pm 3.32$  hours per day, primarily for messaging and that duration of daily smartphone use was the most important predictor of smartphone addiction. A weak to moderate positive association was found between mean smartphone addiction scores and duration of daily smartphone use and years of smartphone use, while a weak negative association was found between mean smartphone addiction scores and communication skills scores [15].

In the work of D. Ayar and K.P. Gürkan, it was shown that there was a significant negative relationship between nursing students' communication skills and their smartphone addiction scores. [16]. The results of R. Khasana and N. Daulay's study of 155 student smartphone users showed that there was a significant negative correlation between smartphone addiction and the ability to communicate with peers: the higher the smartphone use, the lower the ability to communicate with peers, and conversely, the lower the smartphone use, the higher the ability to communicate with peers [17].

The correlations found by foreign researchers between problematic smartphone use and Machiavellianism and communication skills are of great theoretical and practical importance and raise the question of whether such correlations also exist in the Russian-speaking environment.

Also of great theoretical and practical importance is the correlation between problematic smartphone use and the orientation of the individual – to interaction, to self, to the task – however, we could not find any publications on this topic.

The study aims to test the hypothesis that there is a correlation between problematic smartphone use and Machiavellianism, personality orientation, and communication skills in Russian-speaking society.

The relevance of this study is increased by the fact that online manipulations (especially cyberbullying as one of the most common manipulations) are recently carried out via smartphones and social networks. Therefore, it is not surprising that studies have found a positive relationship between Machiavellianism and smartphone addiction [9–12] and social network addiction [18–19].

### **Materials and research methods**

Data for the empirical study were collected via an online survey from 713 respondents in Belarus and Russia, including 361 women aged 15-77 ( $M = 26.6$ ,  $SD = 10.9$ ) and 350 men aged 12-82 ( $M = 28.2$ ,  $SD = 11.5$ ). Two respondents did not answer the question about their gender.

**Methods.** Smartphone addiction was diagnosed using the author's SAS-16 questionnaire [20], the Russian version we had previously adapted and validated [21]. Addiction was also measured using the author's ZSS-15 questionnaire [22], Machiavellianism was assessed using the short version [23] of the author's version of V.V. Znakov's questionnaire [24], communicative competence – L. Mikhelson's test of communication skills, translated and adapted by Yu.Z. Gilbukh [25], personality focus (on interaction, on oneself, per task) – by the Smekal-Kucher test [26, pp. 28–31].

### **Results and discussion**

Examination of the responses showed that they all have a distribution that deviates from the norm. On this basis, we determine the required relationships between the variables using the Kendall nonparametric correlation.

The correlations found for problematic smartphone use are presented in Tables 1–6.

Table 1

*Kendall correlations of problematic smartphone use with social media addiction, Machiavellianism, and communication skills*  
(Total sample,  $N = 713$ )

	Social media addiction	Machiavellianism	Communication skills		
			dependent	confident	aggressive
Coefficient	0.522**	0.166**	0.069**	-0.125**	0.099**
Significance	0.000	0.000	0.009	0.000	0.000

Note. \* –  $p \leq 0.05$ ; \*\* –  $p \leq 0.01$ .

Table 1 shows that problematic smartphone use in the general sample correlates positively with social media addiction, Machiavellianism, dependent and aggressive communication skills, and negatively with assertive communication skills.

Relationships discovered in the combined sample may prove to be statistically insignificant (or significant new relationships may emerge) in the samples of women and men comprising the combined sample. Therefore, examining the relationships between problematic smartphone use in men and women is necessary.

Table 2

*Correlations between problematic smartphone use and dependence on social media, Machiavellianism, and communication skills (women,  $N = 361$ )*

	Social media addiction	Machiavellianism	Communication skills		
			dependent	confident	aggressive
Coefficient	0.515**	0.229**	0.107**	-0.160**	0.175**
Significance	0.000	0.000	0.004	0.000	0.000

Table 2 shows that the problematic smartphone use of women in the sample mirrors the associations found in the general sample.

Table 3

*Kendall's correlations of problematic smartphone use with social media addiction, Machiavellianism, and communication skills (men,  $N = 350$ )*

	Social media addiction	Machiavellianism	Communication skills		
			dependent	confident	aggressive
Coefficient	0.514**	0.145**	0.078*	-0.127**	.084*
Significance	0.000	0.000	0.048	0.001	.044

Table 3 shows that problematic smartphone use in men also reflects the ratios in the general and female samples.

Thus, problematic smartphone use in females and males correlates positively with network addiction, Machiavellianism, dependent and aggressive communication skills, and negatively with assertive communication skills.

The positive association between problematic smartphone use and Machiavellianism is generally consistent with results previously obtained by

foreign researchers [9–12]. However, most of these foreign publications show an indirect relationship with Machiavellianism, whereas a direct positive relationship was found in the present study.

Smartphone addiction is a form of dependent behavior, so the resulting positive association with dependent communication seems quite natural. Dependent and aggressive behavior are two negative alternatives to assertive behavior. Therefore, the observed positive associations between smartphone addiction and dependent and aggressive communication and the negative associations with assertive communication are quite natural and support each other and the conclusions in general.

The correlation between problematic smartphone use and social media addiction is consistent with previous findings [20–22]. The high value of this correlation is explained by the fact that (as shown in our previous study [27]) the relationship between dependence on a smartphone and social networks takes place at the level of the factors that realize these dependencies.

Table 4

*Correlations Kendall's problematic smartphone use with age and personality orientation (total sample, N=713)*

	Focus personality on yourself	Personality orientation toward interaction	Personality focus on the task	Age
Coefficient	0.073**	0.003	–0.071*	–0.213**
Significance	0.005	0.920	0.019	0.000

The data in Table 4 show that in the general sample, there is a positive correlation between problematic smartphone use and focusing on oneself and a negative correlation between focusing on a task and age.

Table 5

*Kendall's correlations of problematic smartphone use with age and personality orientation (females, N = 361)*

	Focus personality on yourself	Personality orientation of interaction	Personality focus on the task	Age
Coefficient	0.076*	0.018	–0.079*	–0.232**
Significance	0.039	0.632	0.042	0.000

Table 6

*Kendall's correlations of problematic smartphone use with age and personality orientation (male, N = 350)*

	Focus personality on yourself	Personality orientation toward interaction	Personality focus on the task	Age
Coefficient	0.085*	–0.012	–0.066*	–0.185**
Significance	0.023	0.749	0.049	0.000

The data from Tables 5 and 6 show a positive association between problematic smartphone use in men and women with self-determination and a negative association with task orientation and age.



These findings are consistent with the fact that a significant portion of the time addicted users spend using smartphones is oriented toward self-direction, which prevents them from learning and working. The latter is supported by studies showing a deterioration in students' academic performance and a decline in work productivity [1].

Searching for all (possible) correlations between the studied variables, Machiavellianism was found to be positively related to self-direction (Kendall correlation equal to 0.069,  $p \leq 0.001$ ), negatively related to interaction with others (correlation equal to  $-0.070$ ,  $p \leq 0.001$ ), and not related to individual focus on the task.

These results are fully consistent with the nature of Machiavellianism. A Machiavellian is, first and foremost, an egoist who puts his interests above those of other people, i.e., he focuses maximally on himself. Hence, the negative attitude towards interaction with others.

The lack of correlation between Machiavellianism and the individual's concentration on the task is explained by the fact that the Machiavellian approaches participation in work from the position of his egoistic interests: if the work contributes to his goal, he will show eagerness; if not, he will pretend that it works. Because of this uncertainty, the result was not statistically significant. The link between Machiavellianism and self-direction proposed here was already established by V.P. Sheinov [28].

The direct links we have established between problematic smartphone use and Machiavellianism, dependent and aggressive communication skills, and negative links with self-aware communication skills create conditions for the victimization of smartphone users [29–30]. And at the same time, they do not contribute to self-confident behavior [31–33].

The comparison of quantitative indicators of problematic smartphone use in men and women gives the following result: the average indicator for men, which is 14.29, is significantly lower ( $p \leq 0.001$ ) than the same indicator for women, which is 17.91. This fact is consistent with the relationship we found in other studies [1; 3].

## **Conclusions**

The research hypothesis was fully confirmed: A positive relationship was found between problematic smartphone use and aggressive and dependent communication skills, Machiavellianism, and social network addiction, and a negative relationship was found with assertive communication skills.

Problematic smartphone use was positively related to self-direction and negatively related to task orientation and age in both women and men.

The positive correlation between problematic smartphone use and Machiavellianism is generally consistent with results previously obtained by international researchers. However, in most foreign publications, only an indirect correlation with Machiavellianism was found, whereas a direct positive correlation was found in the present study.

The present study found a positive correlation between Machiavellianism and self-direction and a negative correlation with interaction with others but not with task orientation.

The practical significance of the obtained results is that they can be used in efforts to prevent students from becoming addicted to smartphones.

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## **ПРОБЛЕМНОЕ ПОЛЬЗОВАНИЕ СМАРТФОНОМ И ЕГО ВЗАИМОСВЯЗИ С НАПРАВЛЕННОСТЬЮ ЛИЧНОСТИ, МАКИАВЕЛЛИЗМОМ И КОММУНИКАТИВНЫМИ УМЕНИЯМИ**

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**Аннотация.** Установленные в исследованиях связи зависимости от смартфонов с многочисленными проявлениями субъективного неблагополучия (тревожностью, депрессией, стрессом, прокрастинацией, снижением самоконтроля и самооценки, неудовлетворенностью жизнью, проблемами в семье и др.) побудили ввести конструкт «проблемное пользование смартфоном» и изучать его содержание. Целью данного исследования является проверка гипотезы о том, что в русскоязычном социуме имеют место связи проблемного пользования смартфоном с направленностью личности, макиавеллизмом и коммуникативными умениями. Данные для эмпирического исследования собраны посредством онлайн-тестирования 713 респондентов в Беларуси и России, в числе которых 361 женщина в возрасте 15–77 лет ( $M = 26,6$ ,  $SD = 10,9$ ) и 350 мужчин в возрасте 12–82 лет. Рабочая гипотеза подтвердилась: исследование показало, что проблемное пользование мужчинами и женщинами смартфоном положительно коррелирует с направленностью на себя, макиавеллизмом, умениями зависимого и агрессивного поведения, зависимостью от социальных сетей и отрицательно – с направленностью на задачу, с навыками уверенного поведения и с возрастом. При этом макиавеллизм положительно связан с направленностью на себя, отрицательно – с взаимодействием с другими и никак не связан с направленностью личности на задачу.

Полученные выводы о связях проблемного пользования смартфоном с макиавеллизмом и типами поведения дополняют аналогичные зарубежные результаты. Связи проблемного пользования смартфоном с направленностью личности ранее не изучались.

Практическое значение полученных результатов включает их возможное использование в профилактической работе с целью предотвращения попадания учащихся в зависимость от смартфона.

**Ключевые слова:** *проблемное пользование смартфоном, субъективное неблагополучие, направленность личности, макиавеллизм, коммуникативные умения, женщины, мужчины*

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## **NON-COMPLEMENTARITY IN THE TRAINING OF EDUCATIONAL PSYCHOLOGISTS AND EVALUATION OF THEIR PROFESSIONAL ACTIVITY**

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**Abstract.** The question of non-complementarity in the system of training and evaluation of the work of educational psychologists is examined. Through an analysis and comparison of various texts, ranging from legal and regulatory documents to specialized research, the author presents his view on the origins of this type of contradiction between psychological training in Russia and the system of evaluation of educational psychologists in the field of education. The results of this analysis offer insights into possible ways to solve the existing problem.

This position is based on the identified contradictions between the following elements within the training of educational psychologists and the assessment of their professional activities: 1) legal and regulatory, 2) methodological, 3) educational, and 4) personal (personal-professional). The possibilities for resolving these contradictions are described in detail:

Defining the basic characteristics of educational psychologists' activities in the Federal State Educational Standards (FSSES) and professional performance standards, as well as in the legal and methodological documents related to the work of school psychologists.

Eliminate "methodological chaos" by creating a professional and scientifically accurate understanding of the content of educational psychology and its major areas of work in education.

Legal clarification of the position and role of the psychologist in the education system and evaluation of the work of the educational psychologist.

**Keywords:** *non-complementarity in the system of education and assessment, practical educational psychology, ways to overcome non-complementarity, personal qualities of a proficient and effective educational psychologist*

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The experience of developing the services of practical psychology both in the world and in Russia, reflected in conference materials, monographs, and publications in specialized journals, has revealed a number of systemic difficulties in preparing and evaluating the professional activities of educational psychologists [1,6]. Clearly, a thorough understanding of this situation and finding ways to overcome the challenges is necessary. Conceptual clarity is crucial for a thorough and accurate analysis of such problems. The

methodological foundations of educational psychologists' training and the evaluation of their professional activities serve as a basis for developing requirements and professional documentation. These foundations ensure precision in selecting evaluation criteria for training programs, contributing to the professionalism and quality of the certification process, material assessment, and other related activities [1].

In this discussion, we will focus on the existing problem by examining the current content of educational psychologists' work. The basic types of educational psychologists' work and its content are defined in the Education Law (Article 42) and specified in the Federal State Educational Standards for Psychologists (FSES) and the Professional Standards for Psychologists (PS). These documents serve as important resources to address the challenges of preparing and assessing practicing educational psychologists for professional practice. For example, the Education Act (Article 42) states: "Psychological and pedagogical, medical and social support for students who have difficulties in coping with basic general education programs, development, and social adaptation." It is clear that the term "psychological and pedagogical" includes interdisciplinary content and makes it possible to go beyond the boundaries of psychology in the training and assessment of specialists.

The professional standard for the specialization "Educational Psychologist" outlines the most important goals of educational psychologists, such as

1. Psycho-pedagogical support within educational institutions, including general, vocational, and supplementary education;
2. Psycho-pedagogical support to people with health impairments who face challenges in coping with basic general education programs.

The use of dual terms such as "psycho-pedagogical support" and "psycho-pedagogical help" can distort the specific nature of the psychologist's work. A similar standard simply states "psychologist in the social field" without using double terminology. The substantive distinction between the work of psychologists in these fields remains unclear, which raises the question of the need for dual terminology.

It is worth noting that the original categorization of professional educational psychologists as "educational psychologists" in Russia in the late 1980s was motivated by the need to establish their status as educational professionals. This allowed the professionals to secure all the rights and privileges associated with this category of employees of educational institutions.

Over time, however, this special title often tempted administrators and employers to emphasize the "educational" part of the title. They assigned psychologists the functions of teachers, educators, methodologists, and organizers, thus giving them tasks that went beyond the scope of their actual role, especially in the narrow sense of traditional pedagogical work.

Since the introduction of the professional standard "educational psychologist (psychologist in education)," the ambiguity about the role of the psychologist has been clarified by adding "psychologist in education" in parentheses. Thus, the use of the term "psycho-pedagogical" may be justified if



the authors wish to emphasize the concept of “collaboration” and “interaction” between teacher and psychologist and draw attention to the challenges of this interdisciplinary field of work. In other cases, such terminology lacks a solid foundation.

For those inclined to consolidate a variety of non-educational professions, from speech therapists to attorneys and from special educators to economists, historical examples serve as cautionary illustrations. I have served on certification committees responsible for evaluating the performance of young professionals who had completed dual degree programs, such as “English Language and social studies teachers.” In most cases, these specialists had inadequate skills in both areas.

Some may remember the establishment of centers for psychological care in the Russian education system. These centers were officially called “medical-psycho-pedagogical” or “psychological-pedagogical and medical-social assistance centers.” Following this logic of amalgamation, the optimization of administration can be continued, exaggeratedly speaking, to the formation of a gigantic educational organization called the “Humanitarian Aid Service in the Russian Education System.” This hypothetical example illustrates the current shift from the core tasks of practical psychology to the tasks that require psychologists to collaborate with their colleagues.

If we pursue the concept of amalgamation, the question arises as to whether it makes sense to retain psychology departments. There is a plea to train “broad-based specialists” for various tasks.

The “Concept for the development of the psychological service in the education system of the Russian Federation until 2025” admits that “...a unified approach to defining the goals, content, working methods of the service, the position and status of psychologists within the education system is lacking”. The fundamental question remains: What prevented the introduction of such an approach in the first place? Was it the professional failure of those who had to solve this problem or the incompetence of those who drafted such a text?

Recently, there has been increased discussion about possible amendments to the “Law on Education” of the Russian Federation, especially with regard to Article 42. Amendments are a natural reaction to changing times and new challenges. However, the nature of the proposed changes is a cause for concern. Do they intend to undermine the core principles of practical psychology? While changes may be necessary, they should not seek to diminish the essential content of practical psychology with terminology that has multiple meanings.

It is clear that action by those officially entrusted with the authority to initiate such changes is long overdue. For example, it is imperative to:

- Document any changes to the subject content of contemporary psychology.
- Formally describe the specific nature of the content within the broader field of practical psychology. This should include a description of the specifics of each area of application.

However, there is no evidence of progress in this direction. An analysis of the content on the websites of the professional associations that unite

psychologists shows that this topic is not a priority. It is not addressed in the forums where such issues are discussed nor in the resolutions of these organizations or their presidia. However, looking at the publications in professional journals dealing with issues of practical psychology, this topic is becoming more relevant and important every year.

The existing inconsistency in the roles assigned to educational psychologists can be attributed to a historical blending of various educational issues. These professionals have often been tasked with dealing with a variety of education issues, such as drug addiction, suicide, social orphanhood, and dealing with delinquent behavior. Although educational psychologists play a role in these areas, it is important to recognize that these tasks fall within the broader interdisciplinary scope of their work, especially in terms of collaboration with other specialists and organizations.

The main role of an educational psychologist is to provide direct professional support to pupils and students experiencing psychological problems in the educational environment. Their expertise is understanding the psychological principles underlying individual development at different stages, environments, and activities. Their main role is, therefore, to ensure the psychological well-being of individuals or groups in the educational context.

It is important to clarify that educational psychologists are not clinical, legal, or speech and language therapists.

Managers are responsible for creating the best possible environment for specialists to work efficiently, while specialists have the right to determine the nature and scope of their work themselves. This is stated in the Russian Federal Law On Education (Article 47, paragraph 3).

Nowadays, many universities offer education in psychology within faculties called exclusively "Psychology." This means specialized education revolves around subject-specific psychological knowledge and special skills for future professionals. As graduates of such faculties, students typically understand the roles they are expected to perform, recognize the boundaries within which they can apply their professional skills in their work environment, and adapt to meet the quality standards for their professional roles.

In the workplace, these principles are formalized in job descriptions for field-specific requirements. Significantly, they shape the type of experiential knowledge developed during professional practice and facilitate the self-actualization of professionals.

As a result of my involvement in the expert evaluations, I have identified an increasing number of weaknesses in the professional practice of educational psychologists. These problems are primarily due to the inconsistency of elements within the professional development system for these specialists. This system includes education, skills enhancement, retraining, and evaluation of psychological support services' effectiveness, qualifications, and quality.

An analysis of recent publications and materials from various professional competitions, competency tests, and similar sources has allowed me to categorize the causes of gaps in the preparation and evaluation of school psychologists into several broad categories:

I. “Normative-legal factors.” This category includes problems such as unclear descriptions, ambiguous terms and definitions, lack of key concepts, characteristic features of activities, and inconsistencies in the content of various documents that form the normative framework for this profession.

II. “Methodological aspects”: imprecise attempts to characterize the essence of practical educational psychology, its uniqueness, and its associated challenges.

III. “Educational aspects”: This category includes the quality of educational programs for vocational training, retraining, and continuing education, as well as the specific training of professionals to become licensed education psychologists. It also includes considerations of the material, technical and methodological support of the learning process, the degree of organization of educational activities, and the existence of scientifically based criteria for the objective evaluation of results (willingness to work as a practical psychologist).

IV. “Personal factors”: This category is about the mismatch between the professionally significant characteristics and the level of development of professional and personal skills of professionals. These skills are necessary for successful work and for fulfilling training requirements as an educational psychologist.

Let us discuss each category in detail.

### **I. Normative-legal factors**

Numerous problems associated with the first category of causation are well documented [2–4]. The constant revisions and refinements of the Federal State Educational Standards (FSES) and Occupational Standards (OS), the absence of certain OS in the field of practical psychology, and the amendment of the recently adopted OS, as well as the conceptual inconsistency between the foundations of the FSES, speak for themselves.

In order to examine this topic more thoroughly, we should focus on the work of educational psychologists.

1. The Law on Education (Article 42) defines in general terms that psychological and pedagogical support includes the following:

- 1) psychological and pedagogical counseling of students, their parents (legal representatives), and pedagogical staff;
- 2) remedial and correctional work with students;
- 3) a range of rehabilitation measures;
- 4) assistance to students in career guidance, obtaining a profession, and social adaptation.

2. According to the “Law on Education in the Russian Federation” (see Article 2), the FSES is “a set of mandatory requirements for education at a certain level and/or for a profession, specialty or field of study approved by the federal executive body responsible for the development of state policy and legal regulations in the field of education.” On this basis, we can consider each FSES for higher education as a document that clearly defines what mandatory requirements apply to education in certain specialties and fields of study.

Higher education institutions establish these requirements in accordance with the federal law or the decree of the President of the Russian Federation.

3. Among the legal documents that clearly define the professional activities of an educational psychologist are the following:

– The federal document still in force, “Regulations for the Service of Practical Psychology in the Ministry of Education of the Russian Federation” (Appendix to Order No. 636 of October 22, 1999).

In Moscow, there is a document entitled “Regulations for the Service of Practical Psychology in the Department of Education in Moscow.”

Several regions, such as Yaroslavl Oblast, Samara Oblast, Novosibirsk Oblast, Rostov Oblast, and others, have issued regional regulations.

The “Standard for the professional activity of an educational psychologist.”

However, these documents lack conceptual and substantive coherence regarding the type of activity carried out by psychologists. By way of illustration, let us compare these key documents (see Table 1).

Table 1

*Activities of an educational psychologist as defined in legal documents  
(comparative table)*

Regulation on the service of practical Psychology in the system of the Ministry of Education of the Russian Federation	Regulation on the service of practical Psychology in the system of the Department of Education in Moscow	Professional standard “Educational psychologist (psychologist in the field of education)” of education)”
<p>The main areas of activity include:</p> <ul style="list-style-type: none"> <li>• Promotion of psychological knowledge</li> <li>• Psychological counseling</li> <li>• Preventive psychological services</li> <li>• Psychological diagnostics</li> <li>Psychological correction</li> </ul>	<p>The main areas of activity include:</p> <ul style="list-style-type: none"> <li>• Preventive psychological services</li> <li>• Promotion of psychological knowledge</li> <li>• Psychodiagnostics</li> <li>• Developmental and psycho-corrective work</li> <li>• Psychological counseling</li> <li>• Psychological rehabilitation</li> </ul>	<ul style="list-style-type: none"> <li>• Work tasks</li> <li>• Psychological-pedagogical and methodological support in the implementation of basic and additional educational programs</li> <li>• Psychological assessment (evaluation) of the comfort and safety of the educational environment in educational institutions</li> <li>• Psychological counseling of participants in the educational process</li> <li>• Corrective and developmental work with children and students, including recreational and rehabilitative activities</li> <li>• Psychological diagnosis of children and students</li> <li>• Promotion of psychological knowledge of those involved in the educational process</li> <li>• Preventive psychological services</li> </ul>

The table shows a lack of consistency in terminology and the number of categories. In the textbooks used to train future educational psychologists, the following areas are often emphasized:

- Promotion of psychological knowledge
- Preventive psychological services
- Psychodiagnostics
- Psychological correction
- Psychological counseling

Drafters of regulatory frameworks, internal or otherwise, cannot overlook this issue. If the existing framework is outdated and no longer reflects current realities, researchers and administrators should address this issue by developing new documents to define and standardize the essential directions and types of activities for psychologists. The Department of Justice should then approve these documents.

The same contradictions are found in the study of professional standards in psychology, including educational psychology. The names, numbers, and, of course, the content and functions differ in these standards.

Of course, a federal document cannot accommodate the nuances in each region. Therefore, each region develops its own local document to adapt to regional circumstances while remaining consistent with the federal structure. However, the core content must remain consistent.

Even a basic comparison of the most recent Federal State Educational Standards (FSSES) reveals differences in the definition of psychologists' major directions and functions. The difference becomes apparent when comparing the parts describing professionals' activities in different fields (Table 2).

It is clear that although each field of application of psychology has specific tasks and types of work, there should be a number of basic directions and types of work that practical psychologists can perform in various areas. A comparison of these texts with most textbooks of educational psychology, the "Regulations for the Service of Practical Psychology in the System of the Ministry of Education of the Russian Federation" and the "Concept for the Development of the Psychological Service in the Education System of the Russian Federation until 2025" shows that there is a lack of consensus between the authors and standards regarding the main directions and types of work activities in the field of practical psychology. In particular, there are significant differences in how they define and specify these essential areas. For example, "preventive psychological services" are listed as one of the main activities in the "Regulation on the Service of Practical Psychology in the System of the Ministry of Education of the Russian Federation." However, they are completely absent in the federal state educational standards for "psychological and pedagogical training."

Table 2

*Activities of the educational psychologist according to FSES  
(comparative table)*

FSES Psychology	FSES Psycho-pedagogical education	FSES Pedagogy and psychology of deviant behavior
<p>As part of the Master's degree program, graduates can prepare for the following professional activities:</p> <ul style="list-style-type: none"> <li>● Research</li> <li>● Educational and preventive psychological services</li> <li>● Pastoral care</li> <li>● Expert and diagnostician</li> <li>● Correction and development</li> <li>● Rehabilitation</li> <li>● Supervision</li> <li>● Pedagogical</li> <li>● Organizational and administrative (management)</li> </ul>	<p>As part of the Bachelor's degree program, graduates can prepare for the following professional activities:</p> <ul style="list-style-type: none"> <li>● Pedagogical</li> <li>● Project activities</li> <li>● Methodical</li> <li>● Organizational and administrative</li> <li>● Cultural and pedagogical</li> <li>● Supportive</li> </ul>	<p>The professional activities of graduates of the specialist program include:</p> <ul style="list-style-type: none"> <li>● Dealing with complex issues in the field of psycho-pedagogical work with deviant behavior in children, adolescents, and adults, as well as the prevention of deviant behavior,</li> <li>● Support for children and young people at risk.</li> <li>● Implementation of corrective and rehabilitative measures for persons with deviant behavior, including children, adolescents, and adults</li> <li>● Psycho-pedagogical expertise and analysis.</li> <li>● Psycho-pedagogical support of social work to protect the rights and legitimate interests of children and adolescents, the social improvement of the family, and the prevention of child neglect, homelessness, and deviant behavior in children and adolescents.</li> <li>● Prevention of juvenile delinquency within the education system.</li> <li>● Social protection of the population, collaboration with law enforcement agencies and organizations working with individuals, including children, youth, and adults with behavioral problems.</li> <li>● Psycho-pedagogical education.</li> </ul> <p>Professional occupations for graduates who have completed the Specialists Degree programs are as follows:</p> <ul style="list-style-type: none"> <li>● Pedagogy (socio-educational)</li> <li>● Diagnostic and corrective</li> <li>● Law enforcement</li> <li>● Expert witness and counseling</li> <li>● Scientific research</li> <li>● Organizational and administrative</li> <li>● Pedagogical</li> </ul>

Furthermore, if we focus on what is written in the “Concept for the Development of the Psychological Service in the Education System of the Russian Federation until 2025”, we can note omissions in the text of the FSES. Primarily, it discusses “project planning” and “psychological expertise.”

## **II. Methodological Aspects**

Numerous studies have dealt with the questions of this category. (Vasilyuk F.E., 1996, 2003; Dubrovina I.V., 2004, 2011, 2012, 2014; Zabrodin Y.M., 1980, 1990, 2013, 2018; Karitsky I.N., 2002, 2014; Mazilov V.A., 2015; Pakhalyan V.E., 2018, 2019, 2020; Yurevich A.V. 1999, 2001, 2005; and others). However, these questions are still relevant, and we are still in the same situation [1, 5].

As for practical educational psychology, the authors of the “Concept for the Development of Psychological Service in the Educational System of the Russian Federation until 2025” have recently tried to overcome the problems of the methodological aspect. Unfortunately, this attempt was not successful. Alas, the text of this document is eclectic, shows methodological confusion, and blurs the specific subject of the work of practical psychologists. It does not represent a new, professionally correct understanding of the content of practical educational psychology, nor does it clarify the primary types of work carried out by educational psychologists.

This concept is not a legal document but has the status of a conceptual and methodological guide. It reflects the policy of the competent ministry in the field of psychological support and thus serves as an unofficial guide for those who provide educational and psychological support. Unfortunately, the text contained in this concept is methodologically inconsistent and contains contradictions on fundamental issues, which only exacerbates the “methodological chaos” in the field of practical psychology [5]. This situation has led to an increasing number of cases in which experts in professional practice identify methodological ambiguities in the professional thinking of a specialist aiming for a certain qualification category. The result is methodological inconsistencies and inadequacies in professional activity.

A clearer and professionally correct understanding of the specifics of practical educational psychology can be derived from a recently published collective work recommended by the Ministry of Education of the Russian Federation [6].

## **III. Educational Aspects**

It is clear that the causes of this category can be traced back to the “methodological chaos” both in the field of practical psychology and its various branches of training. The lack of a clear methodological position is reflected in the FSES and in the content of the specific programs for the preparation (retraining, advanced training) of professionals. It is no secret that in such a situation, each learner is free to use any methodology and understanding of practical psychology as a whole, as well as its specific, specialized content and its application in the field of education. It is unlikely that anyone would deny that the educational outcomes of future practical psychologists are significantly influenced by parameters such as the following:

- The quality of learning conditions (organizational, material-technical conditions, methodological support) for professional training/retraining/competency development.

- The educational level of the students.
- The correctness of the criteria for the evaluation of preparation/retraining/competence development.

The following characteristics can be tentatively identified as reference points and criteria for evaluating the quality/level in this category (Table 3):

Table 3

*Activities of educational psychologists according to FSES (comparative table)*

Influence parameters	Forms of representation	Levels/quality
Organizational	Compliance with standards/requirements for the educational organization	Complete compliance/incomplete compliance/non-compliance
Material and technical resources	Compliance with the standards/requirements for the provision of material and technical resources for the educational process	Complete compliance/incomplete compliance/non-compliance
Methodological	Compliance with standards/requirements for information and methodological support for the educational process	Complete compliance/incomplete compliance/non-compliance. Methodological support/inability to perform professional activities for each type of work (absenteeism, insufficient scope, etc.).
Professional training of students	Special education, professional development of teaching specialists	Only special education/special education + advanced training/special education + advanced training + professional experience as a practical psychologist/special education + advanced training + professional experience as a practical psychologist + documents reflecting professional achievements in the field of practical psychology
Criteria for the assessment of training outcomes	Compliance with standards/requirements for educational outcomes/professional development in the subject area	Level of professional preparation for work in practical psychology (qualification): The degree of mastery of specialized information and its application/use at work. The degree of mastery of modern tools and the quality of all aspects of the professional activity of a practical psychologist that meet the requirements of a particular qualification category. The presence/absence of non-specific (redundant) skills and abilities for educational psychologists



#### **IV. Personal Factors**

• The causes in this category are manifold but are essentially a consequence of the “methodological chaos” in practical psychology. In most textbooks and publications of experienced specialists in the field of practical psychology (A.F. Bondarenko, M.A. Goncharov, V.V. Kolpachnikov, R. Kochyunas, A.V. Makhnach, V.Yu. Menovschikov, R.E. Boyatzis, D. Goleman, K. Rhee, C. Cherniss, K. Schneider, and others) it is pointed out that the personality of a professional is a main factor for effective work [7–8]. However, it is unlikely that you will find a set of rules in which this parameter is used as a criterion for evaluating future professionals. Therefore, the causes in this category are generally due to the following:

- Insufficient focus on personality-driven career counseling.
- Underestimation of the criteria referred to in the professional literature as “personal and professional qualities” in the selection of future professionals.
- Lack of systematic training to differentiate future professionals based on their personality traits and the skills required by a practical psychologist.
- Insufficient inclusion or presentation of specific educational and professional activities aimed at developing the professional and personal skills of professionals according to the specific requirements of the different areas of practical psychology during the training process.
- Limited professional self-development experiences in different areas of work during educational and professional practice, a disproportionate representation of these areas of work.

#### **Conclusion**

To summarize, the main reasons for the lack of complementarity in the training and evaluation of educational psychologists’ activities lie in the inadequacies and contradictions of fundamental aspects of professional practice, such as the legal framework, the methodology of practical psychology, the higher education system and, in particular, the training of educational psychologists. The insufficient consideration of the specific role and importance of personal qualities also influences these problems.

All this allows us to identify the main ways to overcome these challenges:

- Overcome the “normative chaos” by defining and specifying the basic directions and types of activities for educational psychologists and incorporating them into all Federal State Educational Standards (FSES) and regulatory agency documents that govern the content of educational psychologists’ work.
- Overcome the “methodological chaos” in understanding the essence of practical Psychology by presenting a new, expertly grounded approach to the content of general practical Psychology and the major types of work done by educational psychologists.
- Establish the normative place and role of a personality within this specialization, highlight the professionally important qualities of educational psychologists, and establish them as one of the selection criteria for training in

the field of psychological support, as well as in the assessment of professional qualifications of practitioners.

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## **АКОМПЛЕМЕНТАРНОСТЬ В СИСТЕМЕ ПОДГОТОВКИ И ОЦЕНКИ ДЕЯТЕЛЬНОСТИ ПРАКТИЧЕСКОГО ПСИХОЛОГА ОБРАЗОВАНИЯ**

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**Аннотация.** Рассматривается проблема акомплементарности в системе подготовки и оценки деятельности практического психолога образования. С помощью анализа и сравнения текстов различных публикаций (от юридических и нормативных документов до текста специальных исследований) автор показывает свое видение истоков такого рода «десинхронизации» системы подготовки и оценки деятельности практического психолога образования. Полученный в результате проведенного анализа результат позволяет выделить пути возможного преодоления существующей проблемы. В качестве оснований такого положения дел в системе подготовки и оценки деятельности практического психолога образования выделяются следующие несоответствия/не комплементарные отношения между элементами: 1) нормативно-правовые; 2) методологические; 3) образовательные; 4) личностные (личностно-профессиональные). Подробно описаны способы их преодоления: определение базовых характеристик деятельности специалистов-психологов во ФГОС и стандартах профессиональной деятельности, в нормативных и методических ведомственных документах по деятельности педагога-психолога; выход из «методологического хаоса» в понимании сути практической психологии, создание профессионального и научно-корректного понимания содержания как самой практической психологии в сфере образования, так и основных видов работ практического психолога образования; нормативное закрепление места и роли личности психолога в подготовке и оценки деятельности практического психолога образования.

**Ключевые слова:** *акомплементарность, системе подготовки и оценки деятельности, практическая психология в сфере образования; пути преодоления акомплементарности; личностные качества практического психолога образования*

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## CAREER PROSPECTS OF HIGH SCHOOL STUDENTS IN THE CONTEXT OF SOCIAL CHANGE

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**Abstract.** Against the backdrop of global social change, modern high school students face the challenge of choosing a career path corresponding to current realities. This includes taking into account the trend towards specialization in modern education. Established career prospects help young people decide about their educational and career options. This enables them to gain self-confidence and take the necessary steps to achieve their goals. Consequently, one of the most important tasks of educational institutions is to psychologically and pedagogically support the process of developing career perspectives in high school students.

The study aims to examine the current trends in creating professional opportunities for modern high school students and determine the goals for the organization of psychological and pedagogical support of this process.

The methodological framework of the study is based on the ideas of a systematic approach. From this perspective, career perspectives are conceptualized as a series of interconnected developmental pathways that emerge in the context of a person's life events. These paths shape the future in terms of career development and advancement. The dimensions of career pathways are defined as a systemic personality formation encompassing the following aspects: Values and Meaning, Cognitive, Emotional and Evaluative, and Organizational and Action-oriented.

The empirical research methods used in the study include questionnaire surveys, subjective scaling methods, and psychological tests. The collected data was analyzed with mathematical and statistical techniques using SPSS Statistics 22.0 software. The study involved 120 high school students from a Russian general education school.

According to the study, the basis for the development of career prospects for high school students is based on values associated with professional activities, health, and self-development. Modern young people tend to make plans for the medium-term future, a period of one to five years. High school students are positive about their professional future and actively engage in self-organizing activities, planning skills, and setting strategic goals. High school students' career perspectives should be shaped with psychological and pedagogical support that is aligned with their academic profile. In some cases (math profile), it should aim to prevent loss of interest, while in other cases (humanities profile), it should address anxiety.

**Keywords:** career prospects, high school students, life prospects, academic profile

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The social landscape today is undergoing profound changes. These changes include innovative trends, a rapid digitalization of our world, and a move away from the VUCA paradigm, characterized by volatility, uncertainty, complexity, and ambiguity, towards the concept of a BANI world, characterized by its brittle, anxious, non-linear and incomprehensible nature. According to researchers, members of the younger generation feel the impact of these macro factors the most [1]. These circumstances, in turn, shape the self-identity of youth in new ways.

In such an environment, adolescents are faced with the task of choosing their future career path and prospects. To improve the effectiveness of this process, they need support in finding resources to develop and implement a realistic educational and career plan [2].

Determining career prospects plays a central role in the lives of today's high school students. According to L.I. Bozhovich, the ages of 15 to 17 are when adolescents search for their place in the present and the future [3]. At this stage, planning one's professional future is the first step towards career development and provides opportunities for future self-realization in the chosen professions. It is important to note that career choices significantly impact well-being in various areas of life, such as family, morale, finances, and leisure.

However, young people are highly exposed to external influences due to their unclear values, goals, interests, and perspectives. Planning one's professional future provides the opportunity to gain clarity about career goals and to create a life plan for career development [4, 5].

Readiness for career self-determination during adolescence is reflected in the development of self-awareness and reflective processes as proposed by researchers such as L.I. Bozhovich, L.S. Vygotsky, and A.N. Leontiev. These include cultivating personal interests, ideals, and beliefs, understanding one's abilities, and critical self-assessment, which are crucial in shaping students' ideas about their professional future [3, 6, 7].

Many researchers have addressed the concept of individual perceptions of their career future. An analysis of the publications shows a variety of terms used to describe this field of research, such as "image of future professional activity" (P.B. Bondarev, E.M. Kochneva), "professional life plan" (E.A. Klimov), "personal, professional plan" (N.S. Pryazhnikov), "image of professional career" (I.P. Lotova, E.G. Moll, I.A. Pankratova), "ideals of professional career" (A.M. Sheveleva), "beliefs about professional career" (N.L. Kirt), "professional component of the desired image of the future" (V.G. Nemirovsky) and "professional perspective" (S.N. Makarova, V.G. Semenchuk) [8–10].

Despite the diversity of terminology, it is important to emphasize the consensus among researchers regarding the interpretation of the occupational

perspective as an integral aspect of the individual's life perspective. This includes the outlook on future occupations, values, goals, and plans for working life [11].

The study of vocational outlook has its roots in the broader study of life trajectories (by scholars such as B.G. Ananiev and S.L. Rubinstein) [12] and the concept of psychological time in an individual's life (as studied by E.M. Golovakha, V.I. Kovalev, A.A. Kronik, and D.A. Leontiev, among others) [13].

Within this framework, the concept of the individual life perspective has emerged as a comprehensive vision of the future (explored by researchers such as K.A. Abulkhanova-Slavskaya, E.M. Golovakha, A.A. Kronik, and many others). This holistic view of the future includes interweaving prospective life paths in different areas, including family, work, career, leisure, and creativity [14]. This method makes it possible to discuss different parts of the future, including material, family, career, and personal issues, as well as aspects of personal development, career advancement, and family life [15].

Occupational perspectives become the subject of academic research when it comes to understanding a person's ideas about the future in relation to their career development. These perspectives serve as a form of "preemptive socialization" in the occupational domain and play an important role in supporting intentions arising from the occupational self-concept. They represent a central dimension of motivation for career or professional growth [16, 17].

In current psychological science, the renewed emphasis on the study of career perspectives is rooted in the need to examine them as a systemic construct [18]. Based on this approach, our previous research has validated the idea of studying career perspectives as a psychological system [19]. Through the lens of systemic psychological anthropology, career perspectives can be understood as a series of interconnected developmental trajectories that emerge from local life events and influence an individual's future vision of career development and advancement [14].

From a systemic perspective, we can delineate four dimensions of a person's career perspectives: the values and meaning dimension, the cognitive dimension, the emotional-evaluative dimension, and the organizational activities dimension. The values and meaning dimension serves as the basis for life perspectives concerning career development. It encompasses a person's value systems and meaning constructs that shape their future planning, including values, value orientations, motives, and personal meanings. The cognitive dimension comprises the expected and planned events in the professional field. The emotional-evaluative dimension reflects a person's attitude towards their future project in the context of their career development. The organizational-active dimension comprises a person's styles, strategies, and behavioral patterns in the present, which are influenced by the perception of planned and expected events in the professional field [14].

A crucial task for high school students' personal and professional development is to help them discover their career perspectives. These

perspectives guide them in the ever-evolving world of career choices and continuing education. However, today's educational environment, characterized by a clear trend towards specialization in schools over the last decade, makes this process even more complex [20].

Specialized education focuses on the differentiation and individualization of learning. It enables structural, content-related, and organizational changes in the educational process to better meet students' interests, preferences, and abilities. Specialized education aims to create an environment in which students can pursue their academic interests and align their educational pathway with their career aspirations, including further education [21].

Although specialized education offers significant benefits, the widespread implementation of this approach has its pitfalls. The introduction of educational profiles in schools leads students to consider the inevitability of a vocational choice earlier in their educational pathway. Therefore, it is important to help students acquire effective planning techniques to align their academic specialization with their broader career goals.

The scientific ideas presented formed the basis for examining the career perspectives of modern high school students. The data collection methods included a questionnaire survey, scaling, and psychological tests. The data was analyzed using statistical criteria and factor analysis with SPSS Statistics 22.0 software. The following instruments were used to diagnose the content of young people's career perspectives:

1. E.B. Fantalova's method Degree of compatibility of "values" and "attainability" in different areas of life was used to examine the values and meaning dimension of career perspectives.

2. J. Nuttne's method of motivational induction was used to examine the cognitive dimension of career perspectives.

3. Semantic difference scales by I.A. Ralnikova and O.S. Gurova examined career perspectives' emotional and evaluative dimensions.

4. The self-organization of the activity questionnaire designed by E.Yu. Mandrikova was used to examine the organizational and active dimensions of career perspectives.

The respondents were 120 students of grades 9–10 of general education schools aged 15–17, 66 girls and 54 boys.

Here, we come to the results of the empirical study on the value dimension of career prospects among adolescent students. The distribution of life values among young people according to the "value" criterion is shown in Table 1.

The calculation of the average importance scores for life values shows that the following values are most important: an adequate salary ( $8.3 \pm 3.2$ ), career advancement opportunities ( $8.2 \pm 5.5$ ), and mental and physical health ( $8.0 \pm \pm 4.3$ ). The less important values to young people include Recognition of professionalism by others ( $2.9 \pm 2.7$ ) and observation skills ( $3.1 \pm 3.2$ ).

The distribution of life values among young people according to the criterion "accessibility" is shown in Table 2.

Table 1

*The importance of life values for adolescents*

Scale	Average for the group, points
Adequate salary	$8.3 \pm 3.2$
Career advancement opportunities	$8.2 \pm 5.5$
Own mental and physical health	$8.0 \pm 4.3$
Self-development	$7.0 \pm 4.5$
Favorable working conditions	$6.9 \pm 2.9$
Ability to formulate questions and express thoughts clearly	$4.8 \pm 6.3$
Respect within the team	$4.7 \pm 4.5$
Helping others	$4.6 \pm 4.8$
Interesting job	$3.8 \pm 4.1$
Ability to establish contact	$3.7 \pm 2.8$
Observational skills	$3.1 \pm 3.2$
Recognition of professionalism by others	$2.9 \pm 2.7$

*Note.* The values in the table are presented as  $X \pm m$ , where  $X$  is the sample mean;  $m$  – standard deviation

Table 2

*Availability of life values among adolescents*

Scale	Average for the group, points
Mental and physical health	$7.1 \pm 4.6$
Self-development	$6.7 \pm 2.5$
Adequate salary	$6.6 \pm 3.7$
Career growth opportunities	$6.4 \pm 5.1$
Favorable working conditions	$6.3 \pm 3.6$
Ability to establish contact	$5.3 \pm 4.3$
Interesting job	$4.9 \pm 2.5$
Ability to formulate questions and express thoughts clearly	$4.9 \pm 4.6$
Respect within the team	$4.8 \pm 2.8$
Helping others	$4.8 \pm 6.1$
Observational skills	$4.3 \pm 4.0$
Recognition of professionalism by others	$3.3 \pm 3.9$

*Note.* The values in the table are presented as  $X \pm m$ , where  $X$  is the mean value of the sample,  $m$  is the standard deviation.

According to the “accessibility” criterion, the most accessible values for adolescents are mental and physical health ( $7.1 \pm 4.6$ ), self-development ( $6.7 \pm 2.5$ ), and an appropriate salary ( $6.6 \pm 3.7$ ). The values identified by the adolescents as least accessible were recognition of professionalism by others ( $3.3 \pm 3.9$ ) and observation skills ( $4.3 \pm 4.0$ ).

The results suggest that life values underlie adolescents’ career planning: adequate salary, mental and physical health, career development opportunities,



and self-development. These values are both important and accessible to them. No conflict was found between the importance and accessibility of these values.

According to the results of the cognitive assessment of adolescents' career prospects, this dimension is represented by the depth of future planning for different time periods: the near future (up to one year) (30%), the medium-term future (from one year to five years) (42%) and the distant future (five years and beyond) (28%). Young people focus primarily on planning for the medium-term future. Their career prospects are shaped in particular by a combination of the following planned and expected events: "passing exams," "finishing school," and "studying at a college/university."

The results of the young people's emotional attitudes towards their professional future (the emotional-evaluative dimension of career prospects) are shown in Table 3.

Table 3  
*Emotional attitudes of adolescents towards their professional future*

Scale	Average for the group, points
Pessimistic/Optimistic	$8.3 \pm 1.3$
Unhappy/Happy	$8.2 \pm 4.5$
Boring/Interesting	$8.1 \pm 6.2$
Unsatisfied/Satisfied	$8.1 \pm 5.6$
Romantic/Realistic	$8.0 \pm 3.4$
Dull/Attractive	$7.9 \pm 6.1$
Sad/Happy	$7.7 \pm 4.0$
Bad/Good	$7.7 \pm 6.8$
Imposed by others/Originating from me	$7.6 \pm 4.3$
Irritating/Calm	$7.6 \pm 2.1$
Alien/Familiar	$7.5 \pm 5.2$
Chaotic/Harmonious	$7.5 \pm 5.8$
Monotonous/Diverse	$7.4 \pm 6.1$
Standard/Unusual	$7.3 \pm 6.3$

*Note.* The values in the table are presented as  $X \pm m$ , where  $X$  is the mean value of the sample,  $m$  is the standard deviation.

The data in the table shows that adolescents have an optimistic impression of their career prospects. In particular, they see their professional future as optimistic ( $8.3 \pm 1.3$ ), happy ( $8.2 \pm 4.5$ ), interesting ( $8.1 \pm 6.2$ ), eventful ( $8.1 \pm 5.6$ ), realistic ( $8.0 \pm 3.4$ ) and attractive ( $7.9 \pm 6.1$ ) in terms of their career path.

Based on the results of the semantic differential, a factor analysis was carried out, and a model for the young people's emotional attitude towards their professional future was created (Table 4).

The total amount of variance explained was 78.88%. Overall, the factor model comprises five factors that reflect adolescents' emotional attitudes toward their career prospects: "Attractive future," "Realistic future," "Stable future," "Diverse future," and "Simple future."

Table 4

*Factor model of emotional attitudes toward career prospects in adolescents*

Factors				
“Attractive Future” ( $D = 23,727\%$ )	“Realistic Future” ( $D = 18,202\%$ )	“Stable Future” ( $D = 15,369\%$ )	“Diverse Future” ( $D = 13,107\%$ )	“Easy future” ( $D = 8,470\%$ )
Attractive ( $a = 0.846$ ); Good ( $a = 0.829$ ); Peaceful ( $a = 0.809$ ); Happy ( $a = 0.670$ ); Filled with events ( $a = 0.654$ ); Optimistic ( $a = 0.640$ ); Home-like ( $a = 0.574$ ); Long-lasting ( $a = 0.504$ )	Realistic ( $a = 0.844$ ); Calming ( $a = 0.789$ ); Peaceful ( $a = 0.780$ ); Coming from oneself ( $a = 0.667$ ); Exuberant ( $a = 0.665$ )	Stable ( $a = 0.885$ ); Cheerful ( $a = 0.806$ )	Diverse ( $a = 0.878$ ); Interesting ( $a = 0.800$ ); Unusual ( $a = 0.731$ )	Easy ( $a = 0.829$ ); Harmonious ( $a = 0.646$ )

The first factor, “Attractive future,” includes descriptors such as attractive ( $a = 0.846$ ), good ( $a = 0.829$ ), peaceful ( $a = 0.809$ ), happy ( $a = 0.670$ ), fulfilling ( $a = 0.654$ ), optimistic ( $a = 0.640$ ), homely ( $a = 0.574$ ) and long-lasting ( $a = 0.504$ ).

The second factor, “Realistic future,” comprised the following descriptors: realistic ( $a = 0.844$ ), calming ( $a = 0.789$ ), peaceful ( $a = 0.780$ ), coming from oneself ( $a = 0.667$ ), and exuberant ( $a = 0.665$ ).

The third factor, “Stable future,” is characterized by descriptors such as stable ( $a = 0.885$ ) and cheerful ( $a = 0.806$ ).

The fourth factor, “Diverse future,” includes descriptors such as diverse ( $a = 0.878$ ), interesting ( $a = 0.800$ ) and unusual ( $a = 0.731$ ).

The fifth factor, “easy future,” combines two descriptors: easy ( $a = 0.829$ ) and harmonious ( $a = 0.646$ ).

The results of the study on the self-organization of activities among adolescents (organization-activity dimension of career prospects) are shown in Table 5.

Table 5

*Self-organization of activities in adolescents*

Scale	Average for the group, points
Goal Orientation	$33.7 \pm 3.2$
Persistence	$22.2 \pm 4.6$
Fixation	$19.4 \pm 2.1$
Systematic character	$16.5 \pm 4.7$
Present Orientation	$9.2 \pm 5.6$
Self-organization	$9.2 \pm 3.3$

*Note.* The values in the table are presented as  $X \pm m$ , where  $X$  is the mean value of the sample,  $m$  is the standard deviation.

The distribution of the average scores of the questionnaire on self-organization is as follows: Goal setting ( $33.7 \pm 3.2$ ), persistence ( $22.2 \pm 4.6$ ), fixation ( $19.4 \pm 2.1$ ), systematic ( $16.5 \pm 4.7$ ), present orientation ( $9.2 \pm 5.6$ ) and self-organization ( $9.2 \pm 3.3$ ). This distribution indicates a moderate development of tactical planning and strategic goal-setting skills in adolescents and suggests that self-organization is still developing at this age. Adolescents tend to plan their future, set goals, think about how to achieve them and make an effort to organize their activities in the present, including the realization of planned career prospects. They are reasonably goal-oriented, persistent, and motivated to realize their future plans.

Thus, the presented part of the research shows that the formation of career perspectives for individuals is based on their interests and values. In this context, it is logical to assume that students with a math and a humanities profile have different perspectives in the formation of career prospects. This raises the question of how their educational experience in a specialized class affects their professional future and whether their choice of educational profile is conscious and related to their future career. Furthermore, an analysis of the specific challenges in planning career prospects for graduates of the different profile classes is essential.

Let us analyze how high school students see the role of their educational profile in shaping their professional future. Students who specialize in mathematics, for example, can be divided into two roughly equal groups: Some believe that their specialized education will help them in their future career choice (51%), while others cannot yet assess the role of their specialization in their career choice (49%). On the other hand, the majority of high school students in the humanities class believe that their specialized education will not help them in their future career choice (52.3%), some see its usefulness in their career choice (31%), and some are unsure (16.6%). The majority of students with a mathematics profile do not yet know if their future career is related to their educational profile (43.3%), some are convinced of a positive correlation (40%), and a few believe there is no correlation (16.6%). Students with a humanities profile overwhelmingly deny any correlation between their future career and their educational profile (66.6%), many are not sure (26.6%), and only a few are convinced of the benefits of their profile for their future career. Most students with a mathematical profile are convinced that their specialized education will positively influence their future career (43.3%) or only to some extent (50%), while 6.6% of high school students deny the possibility of such an influence.

In contrast, students with a humanities profile mostly see the influence of their educational profile on their professional future as insignificant (60%), although some believe that it positively contributes to their professional realization (16.6%). However, many of them deny any influence (23%). Consequently, high school students who prioritize mathematical sciences tend to believe that their educational background has a greater positive influence on their ability to succeed in the workplace, as confirmed by the analysis of the data with the Mann-Whitney U test (Table 6).

According to this, older students studying mathematics and humanities associate their professional future with profile building to varying degrees. In general, students rate the role of their mathematics degree in shaping their professional future more highly.

Table 6

*Assessment of the learning profile in connection with the formation of career prospects in high school students*

Assessment of Professional Education	Mathematical Profile	Humanities Profile	Significance ( $p$ )
The education profile helps with the choice of a future profession	$1.5 \pm 0.40$	$0.7 \pm 0.03$	$< 0.001$
The professional career will be related to the profile	$1.2 \pm 0.26$	$0.4 \pm 0.02$	$< 0.001$
The education profile will have an impact on the professional future	$1.3 \pm 0.30$	$0.9 \pm 0.17$	0.011

Note. The values in the table are presented as  $X \pm m$ , where  $X$  is the mean value of the sample,  $m$  is the standard deviation, and  $p$  is the significance of differences.

Analysis of the value and meaning aspects of career perspectives has shown that high school students generally form a similar foundation for their future careers, regardless of their educational profile.

Let us analyze the depth of planning for the professional future of today's high school students. According to the data collected, high school students are not actively planning their future careers for the next year. Rather, the one- to five-year period associated with education, which often involves moving to another city and finding a job, is filled with important goals. They also plan their distant future, which extends beyond five years, with similar enthusiasm, primarily forecasting their career-related job prospects. A comparison of planning characteristics among high school students revealed that those who had majored in the humanities were more active in planning their career future for the one- to five-year period (Table 7). This could be related to the fact that humanities profiles generally offer more diverse options for further higher education, which encourages planning. On the other hand, students with a mathematics and science profile tend to see the next five years of their lives as predetermined, as their career choice is probably already set.

The study results show that regardless of their educational profile, high school students perceive their professional future as happy, attractive, and eventful and see it as dependent on their own activities. However, some differences were found between the respondent groups (Table 8). Students with

a humanities profile tended to perceive their professional future as slightly more anxious ( $p = 0.006$ ) and energetic ( $p = 0.006$ ) while at the same time seeing it as less harmonious ( $p = 0.018$ ). At the same time, students with a mathematical profile see it as less fun despite their overall positive attitude towards their professional future ( $p = 0.042$ ). These results can be explained by the fact that students with a humanities profile who have not yet fully determined their professional future have a certain fear of their professional future, which lacks harmony and predictability. However, they perceive this future as more pleasant.

Table 7

*Depth of career planning among high school students with a humanities and mathematics profile*

Depth of career planning	Mathematical Profile	Humanities Profile	Significance of Differences ( $p$ )
Short-term Perspective	$12.08 \pm 1.17$	$9.64 \pm 1.00$	0.163
Medium-term Perspective	$17.86 \pm 2.30$	$26.96 \pm 2.40$	0.003
Long-term Perspective	$18.74 \pm 2.00$	$21.86 \pm 2.20$	0.249

*Note.* The values in the table are presented as  $X \pm m$ , where  $X$  is the mean value of the sample,  $m$  is the standard deviation, and  $p$  is the significance of differences.

On the other hand, the students with a mathematical profile seem to be more relaxed about their future in their predefined profession, which they perceive as harmonious. However, despite their overall positive perception, they consider it less pleasant. This is probably due to the expectations associated with studying mathematical disciplines, which, while precise and orderly, can be less exciting compared to the humanities, which involve engaging with people or texts.

Table 8

*Emotional attitudes toward the professional future among high school students with a humanities and mathematics profile*

scales for assessing the professional future	Humanities Profile	Mathematical Profile	Significance of differences ( $p$ )
Sad – Happy	$7.9 \pm 3.3$	$7.0 \pm 2.3$	0.042
Anxious – Calm	$4.9 \pm 2.1$	$6.5 \pm 3.8$	0.006
Inert – Energetic	$7.7 \pm 2.6$	$6.7 \pm 2.7$	0.006
Chaotic – Harmonious	$5.8 \pm 2.0$	$7.0 \pm 2.4$	0.018

*Note.* The values in the table are given as  $X \pm m$ , where  $X$  is the sample mean;  $m$  – standard deviation;  $p$  – statistical significance, the significance of differences.

Overall, we can conclude from the study results that high school students are generally optimistic about their professional self-realization, regardless of the profile of the study.

The perception of career prospects of high school students can thus be described from the perspective of value-related, cognitive, emotional-value-related, and organizational-action-related aspects using the results of psychodiagnostic and mathematical-statistical procedures. Career perspectives are formed based on professional activities, health, and self-development values. Modern high school students plan events for the medium-term future, from one year to five years. In this period, their career prospects consist of events such as “passing exams,” “finishing school,” and “going to college.” Young people have a positive attitude towards the image of their professional future. It is attractive, realistic, stable, varied, and easy for them.

They are still developing their ability to organize their activities, and at this stage of development, they are actively forming their skills of tactical planning and strategic goal setting. The study shows that modern high school students generally cope with organizing their professional future and that creating professional prospects during adolescence is still in the formative phase. At the same time, a number of moments were revealed that show the peculiarities of shaping professional perspectives under the conditions of profile formation. For example, students with the mathematics profile have decided to a greater extent on a career choice corresponding to their profile, planning less significant events in the next five years. On the other hand, students with the humanities profile concentrate on shaping this particular stage of their life, as the profile of their vocational education, which they still have to plan, is practically not considered. Consequently, humanities students are more concerned about their professional future. However, future mathematicians with a more structured, realistic and generally more successful picture of their professional future may occasionally experience boredom and a sense of predetermination.

It is important to highlight the importance of applying the results obtained to educational work and psychoeducational support for adolescents. This can consist of setting realistic goals, choosing ways to achieve them, reflecting on subjective and objective obstacles on the way to achieving goals, looking for internal and external resources to realize goals, and developing the necessary personal qualities for the future profession. Psychological support for high school students aimed at optimizing their career prospects should be organized in relation to the educational profile and, in some cases, should be aimed at preventing a lack of interest and a sense of predetermination, and in other cases, fears.

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## **ПРОФЕССИОНАЛЬНЫЕ ПЕРСПЕКТИВЫ СТАРШЕКЛАССНИКОВ В УСЛОВИЯХ СОЦИАЛЬНЫХ ИЗМЕНЕНИЙ**

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**Аннотация.** В условиях глобальных социальных трансформаций, задающих тренд на вариативность возможных сценариев личностного развития, перед современными старшеклассниками особенно остро встает вопрос относительно проектирования адекватного современным реалиям образа профессионального будущего, позволяющего, в том числе, учитывать тенденцию профилизации современной школы. Сформированные профессиональные перспективы помогают взрослому человеку сориентироваться в информационном поле возможностей выбора и обучения будущей профессии, обрести уверенность в завтрашнем дне, осуществить в настоящем необходимые действия, способствующие реализации поставленных целей. В связи с этим, одной из важных задач образовательных учреждений становится организация психолого-педагогического сопровождения процесса построения профессиональных перспектив учащихся старших классов.

Цель представленного в статье исследования – оценка ведущих тенденций проектирования профессиональных перспектив современными старшеклассниками и выявление мишеней по организации психолого-педагогического сопровождения данного процесса.

Методологической базой работы выступили идеи системного подхода, с позиций которого профессиональные перспективы осмыслены как взаимосвязанная совокупность перспективных линий развития, возникающих в пространстве локальных жизненных событий и обуславливающих облик будущего в границах сферы профессионального развития и карьерного продвижения. Определены измерения профессиональных перспектив как системного образования личности – ценностно-смысловое, когнитивное, эмоционально-оценочное, организационно-деятельностное. Методами эмпирического исследования выступили анкетный опрос, метод субъективного шкалирования, психологическое тестирование. Полученные данные обрабатывались математико-статистическими методами с использованием статистического пакета SPSS Statistics 22.0. В исследовании приняли участие 120 учащихся старших классов российской общеобразовательной школы.

Результаты исследования показали, что в основе построения профессиональных перспектив старшеклассников лежат ценности сфер профессиональной деятельности, здоровья, саморазвития. Современные подростки ориентированы на планирование событий среднеудаленного

будущего, периода от года до пяти лет. Старшеклассники представляют свое профессиональное будущее в позитивном ключе, у них активно развивается процесс самоорганизации деятельности, навыков тактического планирования и стратегического целеполагания. Психолого-педагогическое сопровождение становления профессиональных перспектив старшеклассников должно выстраиваться с учетом профиля обучения и быть направленным в одних случаях (математический профиль) на профилактику утраты интереса и возникновения ощущения предопределенности, а в других (гуманитарный профиль) – тревоги.

**Ключевые слова:** профессиональные перспективы, старшеклассники, жизненные перспективы, профиль обучения

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## **ROLE OF RESILIENCE ON THE PREVALENCE OF TRAUMATIC EVENTS IN KENYA: A CASE OF ARSON ATTACKS IN HIGH SCHOOLS IN NAIROBI COUNTY**

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**Abstract.** This study investigated the role of resilience in the traumatic events of June and July 2016, when more than 130 high schools were set ablaze. Learning was disrupted. The survivors were gripped with trauma symptoms and signs. This impaired their mental health and functioning. They needed psychological adjustment in order to return to normalcy. There were 835 students. Self-revealing questionnaires were adopted to gather information for analysis. The findings showed a link between resilience, adaptation, and functioning. Resilience and Mindful lessons were not taught in schools, and most schools missed out on facilities that would instill resilience among students.

**Keywords:** *resilience, psychological adjustment, trauma, adaptation*

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### **Introduction**

Globally, arson attacks have been with humankind from antiquity to the present time. Ever since humankind began erecting structures, fire has been part of their history [1]. These attacks are traumatic and leave survivors with psychological trauma, which impairs their mental health-wellness and functioning. In order for the survivors to return to normalcy, they will need psychological adaptation. Fires, too, result in health complications, destruction of property, death, relocation of survivors to other facilities, repairs, replacement of lost items, and reconstruction of new facilities. Burning substances may emit chemicals, and inhaling these chemicals and smoke may become health hazards to survivors [2]. Arson may be defined as a malicious and deliberate criminal act of setting buildings or property on fire to cause damage, harm, loss, death, revenge, profiteering, or concealment of another crime. Meanwhile, accidental fires usually arise in relation to some human agency without any intention or by some natural cause [3].

The USA experienced 12000 arson attacks from 2009 to 2011 [1]. In similar studies in the UK and Wales, one in eight high schools experienced arson attacks from 2007–2009 [4]. Meanwhile, institutional criminal profiling of social arson attacks in high schools in Australia identified that the attacks had doubled [5]. In Asia, India was noted for incidences of arson attacks. Kashmir province was notorious, with more than 4000 students from 47 high schools who survived arson attacks [6]. Africa was not spared either. South Africa, for example, had 20 high schools torched on May 06, 2016, in Limpopo Province, Natal. Similar cases were reported in high schools in Tanzania, Uganda, Nigeria, and Kenya, and in all of the cases, there were several thousands of survivors of arson attacks who required psychological adjustment [2, 7].

The current study seeks to establish the relationship between resilience, psychological adjustment, and functioning after trauma. Resilience enhances adaption and healing [2].

### **Role of schools in building resilience**

The role of schools in building resilience in students is extremely significant [8]. Lippmann and Schmitz, in the study [8], address what schools should do to build resilience so that when a disaster occurs in their school, students would respond to it. They observed that it was puzzling how some youths who had experienced trauma overcame the effects and bounced forward while others did not. They highlighted the importance of schools in recognizing social and emotional well-being and supportive school climate in enhancing positive academic and behavioral outcomes. In addition, they discussed common components of resilience in the youths, such as individual behaviors, attitudes, and competencies, together with family, school, and community support. They developed strategies for building resilience and how to help victims recover from the aftermath of a traumatic event. They concluded their work by recommending that students should have time to connect with each other, have caring adults to assist them, have supportive meetings for debriefing, have flexible programs, and feel safe.

### **Resilience**

Tocino-Smith [9] gave examples of three resilience exercises that could be downloaded and taught in school. These were: fostering resilience in schools, fostering resilience among learners, and teaching resilience in schools. The author cautioned that the science-based exercises were difficult to teach in a class setup. Further, he noted that the exercises were crucial in preparing students for adversity. The topics in resilience should include but are not limited to social competence, optimism, purposeful behavior, problem-solving, effective coping styles, and enhancing positive self-image. The authors summed up the seven C's of resilience: (a) Control for opportunities that provide a sense of control, (b) Competence, that is, to explore how challenges are handled and (c) Coping mechanisms, including confidence building, connectedness (to create a sense of belonging), character (as a bedrock of

success) and contribution (as a sign of growth). Resilience is, therefore, critical in a learning environment since it aids students to come out of adversity with a positive sense of victory for themselves and their future. Children who develop resilience are more able to face disappointment, learn from failure, cope with loss, and adapt to change as life continues. After several psychological studies, the characteristics of resilient people were listed as follows (also known as the eight characteristics of resilient people): they can detect the cause of their problems by applying self-confidence that emerges from within; they understand how to handle their feelings, manage their thoughts, and resist negative challenges. This helps them keep composure, remain focused and alert, and discern any confusion. In addition, they will strive to be realistic and optimistic while hoping for the best and exhibit confidence and competence in themselves. Another important characteristic is that they are empathic; in other words, they put themselves in the “shoes of others,” read their emotions, understand what they are experiencing, and deal with the situation accordingly. These are people who know how to motivate themselves. Their attribute is to understand that some challenges motivate while others serve as chances to embrace change since resilient individuals seek ways to satisfy themselves and others. Finally, resilient people do not ask why me? Rather, they use their energy, ability, intellect, and skills on how to control or ease out of the debilitating condition [9].

### **Discipline**

The rules and regulations the schools must uphold are contained in the safety standards manual for secondary schools in Kenya, published in 2008. To test the efficacy of these rules and regulations, Nyakundi [10] surveyed preparedness and safety standards in secondary schools in Kenya. He wanted to determine their readiness to respond to a disaster. The findings from the survey identified loopholes in disaster preparedness. He recommended measures to be taken, such as the Ministry of Education to carry out regular inspections to ensure full compliance with the safety standards manual procedures, establish school safety sub-committees, introduce Scouting Movements, and train students on safety guidelines that must, however, be strictly adhered to.

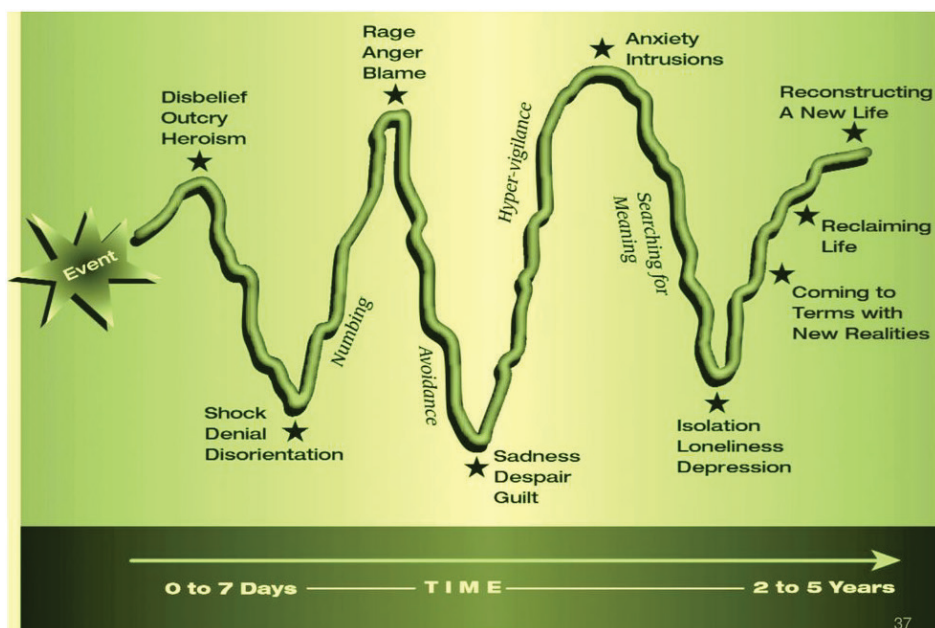
The Association for the Development of Education in Africa (ADEA), under the motto “Our common voice, our common success,” published a paper entitled “The Role of Discipline in a Learner and Quality of Life” and began by explaining the term discipline [11]. It is considered the need for steps to manage conduct in a learning institution to safeguard an individual’s life and create a conducive environment for learning. ADEA underscores the fact that learning cannot be concluded without order. The paper discusses the importance of discipline in schools, positive reinforcements of character in students’ growth and education procedure, and the effect of chastising a student based on achievement. The ideal situation, the Association concluded, is the learner doing what is meaningful, virtuous, progressive, and significant. The virtues improve a community and create a better enjoyable society where individuals will be delighted to co-exist [11].

## Emergency Preparedness

Safety preparedness is accepted as emergency preparedness. The purpose is to limit the impact of the disaster through knowledge and involvement to save lives. Studies conducted on a national survey in the USA established that many populations were unprepared for emergencies [12]. The researchers recommended studies in measuring personal emergency preparedness and predicting potential risks of lack of preparedness [12]. De Wolf [13] identified five stages in planning to respond to an emergency: pre-event, rescue, inventory, recovery, and post-event.

## Psychological Adjustment

Psychological adjustment is also referred to as adaptation. The current study found that trauma can precipitate PTSD and post-traumatic depression. Thus, it needs to identify how psychological adjustment can be addressed. Psychological adjustment is necessary in order to function effectively. Figure 1 shows the stages a survivor of arson attacks goes through in line with the model of response by De Wolf [13].



**Fig. 1.** Model of Responses to Trauma and Bereavement.

Source: Adopted from De Wolf [12]

The demonstration above attempts to graphically depict what goes on in a survivor's life of a traumatic event. The consequences appear wave-like in a multiplicity of complications in any order. Clearly, then an individual survivor needs psychological adjustment in order to return to normalcy De Wolf [13] and Seaton [2].

## **Research Methodology**

This section discusses the research design, population, and sampling matrix.

### **Research Design**

This research applied a descriptive survey design to execute it. The survey design helped the researcher meet the study objectives by collecting, measuring, and analyzing data. The design used the description to organize data into patterns that emerged during analysis. This analysis generates diverse information [14]. The researcher conducted a survey to establish the relationship between resilience, adaptation, and functioning after arson attacks. The study determined that the facilities provided in the schools instill resilience and hence, psychological adjustment. The researcher prepared instruments or tools for collecting, analyzing, and interpreting observed information.

### **Population of the study**

The population of concern was the form four students who completed their studies towards the end of 2019 in the high schools that experienced arson attacks during June and July 2016 in Nairobi County in Kenya. A total of 853 students were studied (Table 2). The sample comprised four schools: two public boys boarding, one private boy boarding, and one mixed boys and girls public with girls boarding while boys were day scholars. They were among over 130 secondary schools that experienced arson attacks in Kenya in June and July 2016. They were the only schools in Nairobi that suffered arson attacks in 2016. Nairobi is the only city in Kenya that was most affected by fires [15, 16].

Table 1

*Population Sample*

Type of School	Number of Students	
Boys High School (Public Boarding)	225	
Boys Boarding (Private Secondary School)	275	
Boys High School (Public Boarding)	185	
Mixed Boys and Girls (Public Girls Boarding and Boys Day)	168	
Total	853	

Source: Researcher, 2019.

The schools were drawn from this category, as shown in table 2. With this type of population, the recommended sample size range is 10–30% [17]. Consequently, a sample of 256 was studied. One school with a population of 68 piloted the study, leaving a total of 188. The questionnaires dispatched were 188. However, 161 questionnaires were filled and returned. This gives a total of 85%. Weisberg et al. [18] recommended a response rate of 70%, while Mugenda and Mugenda [17] recommended a response rate of 50% as a sufficient degree for analysis and reporting.

Table 2

*Sampling matrix for students*

Type of school	Number of students	Sampling, %	Sample size
Public boarding	225	30	68
Private boarding	275	30	81
Public boarding	185	30	56
Mixed boys and girls boarding	168	30	51
Total	853	30	256

Source: Researcher, 2020.

**Data Analysis**

The data analysis process involved using the statistical package for social sciences (SPSS) version 20.0.01 bit 64 in the Windows 10 OS. The program provided a graphical statistical analysis and data management system, which provided data cleaning, coding, tabulation, and drawing statistical inferences. Within the program, analysis through tabulations was based on computations of percentages, coefficients of correlations, and the application of descriptive statistics [19]. The study also used frequencies and percentages as they easily communicated the research findings to the majority of readers [19]. Frequencies easily show the number of times a response occurred in a given category. Percentages were used to compare sub-groups that differ in proportion and size. Qualitative data from interviews were read carefully, paying particular attention to the respondents' comments, ideas, and concerns. Field notes were edited, coded, and written based on content and themes. The study used an indicative thematic content analysis approach to analyze the qualitative data. This involved analyzing the interview transcripts and identifying the themes from the data collected [20, 21].

Table 3

*Role of high schools in building resilience*

Description	N	Minimum	Maximum	Mean	Standard deviation
The school has training in fire prevention	161	0.00	0.00	0.8509	1.13033
The school has installed fire protection equipment.	159	0.00	0.00	0.6730	1.22989
The school has a fenced compound	160	0.00	0.00	0.9375	1.38131
The school employs a counselor	161	0.00	0.00	0.5528	0.110057
The school has a chaplaincy	161	0.00	0.00	0.1925	0.58647
The school provides recreational halls	159	0.00	0.00	0.4654	0.84778
The school provides extra-curricula activities	160	0.00	0.00	0.4813	0.82395
The school has clubs for students e.g., scouting	161	0.00	0.00	0.2609	1.33474
Valid N (listwise)	155	0.00	0.00		

Source: Researcher, 2019.



The findings established that most participants indicated that the school rarely had training on fire prevention ( $M = 1.8509$ ;  $SD = 1.1303$ ). Also noted from the respondents was that the majority conceded that the school rarely had installed fire protection equipment. The mean score of 1.6730 and standard deviation of 1.2289 showed consistent participant responses. In addition, most participants indicated that the school rarely had a fenced compound, as shown by a mean score of 1.9375 and a standard deviation of 1.3813, indicating minimal deviations from the mean. Similarly, it was observed that the school rarely employed a counselor ( $M = 1.5528$ ;  $SD = 1.1006$ ).

It was found that the school did not have a chaplaincy, as shown by a mean score of 1.925 and standard deviation of 0.5865, indicating a consistency in participant responses. Most participants indicated the school did not provide recreational halls, with a mean score of 1.4813 and a standard deviation measure of 0.8478. Further, it was found that the school did not provide extracurricular activities, as shown by a mean score of 1.4813 and a standard deviation of 0.82395.

The findings further indicated that the school rarely had clubs for students, as shown by a mean score of 2.2609 and a standard deviation of 1.3347. Also noted from the findings was that most respondents conceded that the school rarely employed a counselor ( $M = 1.5528$ ;  $SD = 1.1006$ ). It was asserted from the findings that the majority of the respondents indicated that the school did not have a chaplaincy. This was seen from the mean calculated (1.925). The standard deviation of .5865 indicated that there was uniformity in the responses from the respondents. The study also established that most respondents indicated that the school did not provide recreational halls. This was indicated by the mean calculated, 1.4813. The standard deviation calculated was 0.8478, showing uniformity in the responses from the respondents. Also noted from the findings was that most respondents conceded that the school did not provide extracurricular activities. This was evidenced by the mean score of 1.4813 and standard deviation of 0.82395. Most respondents recorded that the school rarely had clubs for students, as shown by a mean score of 2.2609 and a standard deviation of 1.3347.

### **Discussions, Recommendations, and Conclusions**

The objective of the study was to establish the role resilience played in mitigating the consequences of trauma among students. This would include facilities that build resilience, such as extracurricular activities, play fields, fenced compounds, recreation facilities, chaplaincy, training programs on resilience, mindfulness, and fire emergency training discipline, among others. This is due to the fear that arson attacks have not stopped since 1908, and the consequences are debilitating [2]. It is established that resilience enhances psychological adjustment [13, 2]. Psychological adjustment enhances healing, thus restoring an individual survivor to normalcy [2].

In related studies, Kipng'eno and Kyalo [22] agree with the views of this study in that they emphasize that schools should be disaster-resistant [15]. The concept of resilient institutions and students is a lifelong concern intended to

promote equitable, quality, and inclusive education for all. Therefore, preparation is necessary to make all United Nations Member States Schools and Students safe by 2031 [23]. Arson attacks are traumatic events that leave survivors with debilitating psychological symptoms and signs that affect their mental health and performance. Since they are young people, their future may be ruined. Their contribution to the development of their country may also be in question, while their families and communities live in fear if fighting school fires is left to chance.

The study also agrees with Shibutse et al. [24] that arson attacks in high schools require all safety measures to work harmoniously to mitigate fires effectively. This is in line with General Systems Theory, which states that all systems of an operation must be working together harmoniously so that an assignment will be successful [25].

Individual students have roles to play. Students' attitude toward accepting discipline as part of their regular safety net is paramount. A breakdown in discipline could breed chaos due to a lack of restraint on acceptable behavior. As human beings, students have inherent cognitive psychological resources in the form of control and evaluation. When used properly, these cognitive resources influence an individual's judgment in situations of uncertainty, promote resilience, psychological adjustment, and, ultimately, healing. Cognitive resources also form the basis for cognitive behavioral therapy [26].

### **Recommendations**

The article suggests that schools should play an important role in combating arson by, for example, introducing resilience and mindfulness education as subjects. Meaningful, quality education cannot take place in an unsafe environment. Student safety must be ensured. Future studies could look at the current wave of legalization of marijuana/cannabis sativa use in countries and examine the consequences for youth to control arson attacks in high schools. Further research is also needed to compare the adjustment of male and female victims mediated by the culture in which men are not allowed to cry because it is considered a sign of weakness. Meanwhile, Israel has coined the word "ISResilience" as a slogan to teach the world "not to bounce back but to bounce forward" after a disaster [27]. Resilience and mindfulness are associated with resilience and ISResilience [28].

### **Conclusion**

This study aims to understand how survivors of an arson attack cope with trauma. Resilience is helpful in overcoming various psychological problems associated with an arson attack. Resilience encourages a person to develop skills to overcome difficulties and thus move forward instead of backward. Resilience also gives one the ability to face challenges, find solutions, and develop better coping strategies. This is critical for success in life.

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### **Abbreviations (Acronyms)**

ADEA – Association for the Development of Education in Africa  
NCRC – National Crime Research Centre  
PTSD – Post Traumatic Stress Disorder  
SPSS – Statistical Package for Social Sciences  
UNDRRRIE – United Nations Disaster Risk Response in Education  
UNESCO – United Nations Educational Scientific and Cultural Organization  
UK – United Kingdom  
USA – United States of America

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## **РОЛЬ ПСИХОЛОГИЧЕСКОЙ УСТОЙЧИВОСТИ ПРИ ТРАВМИРУЮЩИХ СОБЫТИЯХ В КЕНИИ: СЛУЧАИ ПОДЖОГОВ СРЕДНИХ ШКОЛ В ОКРУГЕ НАЙРОБИ**

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**Абстракт.** В этом исследовании изучалась роль устойчивости к травмирующим событиям июня и июля 2016 года, когда было подожжено более 130 средних школ. Обучение было сорвано. Выжившие были охвачены симптомами и признаками посттравматического синдрома. Это нанесло ущерб их психическому здоровью и функционированию. Им нужна была психологическая корректировка, чтобы вернуться к нормальной жизни. Было опрошено 835 студентов. Для сбора информации и для анализа разработана специализированная анкета. Результаты показали связь между психологической устойчивостью, адаптацией и функционированием. Уроки психологической устойчивости и осознанности не преподавали в школах, и в большинстве школ не хватало средств, которые могли бы привить учащимся психологическую устойчивость.

**Ключевые слова:** *психологическая устойчивость, психологическая адаптация, травма, адаптация*

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