

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL

<http://mentaljournal-jspu.uz/index.php/mesmj/index>



GENDER ASPECTS OF YOUTH MENTAL HEALTH IN THE CONTEXT OF SOCIAL AND DIGITAL TRANSFORMATIONS: INTERNATIONAL TRENDS AND THE EXPERIENCE OF UZBEKISTAN

F.A. Akhmedshina

Doctor of Historical Sciences, Professor

Jizzakh State Pedagogical University

E-mail: fahmedsina@gmail.com

Jizzakh, Uzbekistan

ABOUT ARTICLE

Key words: youth mental health; gender differences; digital transformation; biopsychosocial model; social determinants of health; Uzbekistan; adolescence.

Received: 05.08.26

Accepted: 06.08.26

Published: 07.08.26

Abstract: The article presents a historical-humanities analysis of the evolution of scholarly perspectives on youth mental health and related gender differences amid social and digital transformations. Drawing on international research, WHO and UNICEF reports, and data from HBSC 2021–2022 and MICS Uzbekistan 2021–2022, it traces the expansion of the scientific paradigm from the clinical-psychiatric model to biopsychosocial, social-determinants, and digital approaches. The higher prevalence of anxiety and depressive symptoms among girls and externalising behaviours among boys is explained through the interaction of biological predispositions, gendered social norms, and institutions of socialisation. Digital platforms, algorithmic personalisation, and generative artificial intelligence do not create fundamentally new patterns of psychological distress but alter the intensity and forms of existing risk factors. Uzbekistan is examined as a case in which digital modernisation coexists with the enduring influence of the family, mahalla, and extended kinship networks. The article proposes a historical-humanities periodisation of scholarly approaches and substantiates the need for gender-sensitive prevention, stronger school

Introduction. In recent decades, the mental health of children, adolescents and youth has become one of the key priorities of the international agenda in the fields of public health, education and social policy [12; 16; 22; 40]. In contemporary conditions, it is regarded not only as a medical category, but also as a crucial factor of social integration, the realisation of human rights, the formation of human capital and the sustainable development of states [22; 36; 40]. In the World Mental Health Report of the World Health Organization, mental health is defined as an integral component of human health and one of the fundamental conditions of public well-being [40].

According to UNICEF estimates, approximately one in seven adolescents worldwide lives with some form of mental disorder [32]. About half of all mental disorders develop before the age of 14, and roughly three-quarters before the age of 24 [11]. A cross-national analysis of data from 29 countries also confirms that a significant proportion of mental disorders first manifest in childhood, adolescence and young adulthood [15]. This underscores the particular importance of early prevention and the development of accessible psychosocial care for children, adolescents and youth.

The human right to mental health is enshrined in the system of international documents of the United Nations and the World Health Organization [36; 44]. State policy in this area is oriented towards the prevention of mental disorders, the expansion of access to psychosocial assistance, the reduction of stigma, and the creation of a supportive family, educational and social environment [40; 44]. These provisions were further developed in the UN analytical note Mental Health and COVID-19 [36] and in the official address of the UN Secretary-General António Guterres on World Mental Health Day 2023, in which mental health was declared a fundamental right of every person [8]. This position is reinforced in the WHO international campaign World Mental Health Day 2023 under the motto “Mental Health is a Universal Human Right” [41], in the joint guidance of WHO and the Office of the United Nations High Commissioner for Human Rights [44], and in the Dartmouth Call to Action of 2025 [5].

Throughout the 20th and early 21st centuries, the scientific understanding of mental health has undergone substantial change. The clinical-psychiatric approach, oriented primarily towards the diagnosis and classification of mental disorders [1], was complemented by the biopsychosocial model of G. Engel [7], the ecological theory of U. Bronfenbrenner [4], and the concept of social determinants of health [39]. As a result, mental health came to be regarded as

a dynamic process shaped by biological, psychological, social, cultural, economic and institutional factors [13; 22; 40]. These approaches did not successively displace one another, but gradually expanded the research paradigm and continue to coexist in contemporary science.

Particular attention is paid to adolescence and youth as a sensitive period of the life cycle, when the influence of the family, the educational environment, peers, social expectations and socio-economic conditions simultaneously intensifies [29; 37]. The prevalence and forms of manifestation of psycho-emotional distress differ according to sex and gender [27; 45]. Girls more frequently report anxiety and depressive symptoms, emotional stress and eating disorders [9; 28], whereas among boys more common are externally directed and risk-taking forms of behaviour [27; 42; 45].

These differences cannot be explained solely by biological characteristics. Gender social norms, family upbringing, the educational environment and socially acceptable ways of expressing emotions influence both the forms of manifestation of psychological distress and the readiness of young people to seek help [6; 27; 30; 37]. Therefore, the observed differences are regarded in the present study as the result of the interaction of biological predispositions with historically changeable mechanisms of socialisation and cultural expectations.

A new factor transforming these mechanisms has been the digitalisation of society. Social networks, algorithmically personalised platforms, recommendation systems and generative artificial intelligence have changed the processes of communication, learning, self-presentation and identity formation [2; 19; 31]. The digital environment expands opportunities for access to information, educational resources and psychological support [3; 24; 26], yet at the same time is associated with risks of cyberbullying, problematic social media use, information overload, sleep disturbances and emotional distress [10; 17; 19; 23]. At the same time, contemporary research does not confirm a universal linear relationship between the duration of digital technology use and the deterioration of mental health. The impact of the digital environment depends on the nature of the activity, the content of the information consumed, age, sex, the initial psychological state and the social context [19; 20; 23].

Of particular scientific interest is the Republic of Uzbekistan, where digital modernisation and educational reform are taking place simultaneously with the preservation of the high role of the family, the mahalla and extended kinship ties [33; 35]. This combination of traditional and modern mechanisms of socialisation creates a specific context for the formation of youth mental health. At the same time, national data remain limited, and gender differences under conditions of digital transformation have been insufficiently studied.

The aim of the present study is to identify the main patterns of the historical transformation of scientific ideas about gender differences in youth mental health, to determine the role of social and digital factors in their formation, and to reveal the specific features of these processes in the Republic of Uzbekistan.

Methodology. The present study is a review-analytical work of a historical-humanitarian orientation, based on a comparative examination of contemporary scientific literature, international analytical reports and statistical materials devoted to the mental health of children, adolescents and youth. The primary unit of analysis was not individual clinical symptoms, but changes in scientific approaches to explaining mental health, gender differences and the role of institutions of socialisation.

The source and information-statistical base of the study consisted of materials from the international survey Health Behaviour in School-aged Children (HBSC) 2021–2022 of the WHO Regional Office for Europe [9; 45] and the national Multiple Indicator Cluster Survey (MICS) Uzbekistan 2021–2022, conducted with the support of UNICEF [33]. For the analysis of the national context, the situational analysis of the situation of children and adolescents in Uzbekistan published by UNICEF in 2024 was also used [35]. No original empirical research or secondary statistical processing of the primary HBSC and MICS datasets was conducted.

The source base comprised: (1) international documents and analytical reports; (2) materials of international monitoring studies and national statistical surveys; (3) systematic reviews, meta-analyses and original studies on the mental health of children, adolescents and youth. In the selection of literature, priority was given to publications from 2019–2026, primarily works from 2023–2026 reflecting the consequences of the COVID-19 pandemic, digital transformation and the spread of artificial intelligence. Earlier studies were used to reconstruct the formation of the biopsychosocial, ecological, social-determinant and gender approaches [4; 6; 7; 13; 30; 39].

The methodological foundation of the study was formed by the historical-humanitarian, comparative-historical, comparative, interdisciplinary and gender approaches. The historical-humanitarian approach was used to reconstruct changes in scientific ideas about youth mental health. The comparative-historical approach made it possible to identify the dominant research paradigms at different stages and to establish continuity between them. The comparative approach was applied in the juxtaposition of international data and materials on Uzbekistan. The gender approach ensured the analysis of the influence of social norms, cultural expectations and mechanisms of socialisation on differences in the manifestations of psycho-emotional distress among girls and boys [6; 27; 30].

The proposed periodisation is based on changes in the dominant mode of explaining mental health and the expansion of the range of recognised factors of its formation. It distinguishes the clinical-psychiatric, biopsychosocial, social-determinant and digital stages. These stages are understood not as strictly delimited and successively displacing one another periods, but as historically emerging research paradigms whose elements continue to coexist. The digital stage is distinguished not because of the emergence of fundamentally new mental disorders, but in connection with the transformation of the environment and mechanisms of socialisation under the impact of digital platforms, algorithms and artificial intelligence.

The limitations of the study are determined by its review-analytical character, differences in the age of participants, measurement methods and design of the examined studies, as well as the insufficient quantity of long-term data for the countries of Central Asia. Indicators from HBSC, MICS and national registration statistics were interpreted separately and were not regarded as directly comparable. This limitation was taken into account when formulating conclusions about the prevalence and gender characteristics of psycho-emotional distress.

Results

1. Historical Evolution of Scientific Ideas about Youth Mental Health

The development of scientific ideas about youth mental health reflects the evolution of humanitarian and medico-social knowledge that occurred under the influence of changes in social institutions, the education system, models of socialisation and the nature of human interaction with the environment. Throughout the 20th and early 21st centuries the research paradigm gradually expanded: from a predominantly clinical understanding of mental health as the absence of mental illness — to its consideration as a complex, historically changeable phenomenon shaped by biological, psychological, social, cultural, institutional and digital factors. This transformation is reflected in the World Mental Health Report of the World Health Organization, where mental health is regarded as a crucial resource of human development, social resilience and public well-being [40].

In the evolution of scientific ideas four interrelated stages can be distinguished: the clinical-psychiatric, the biopsychosocial, the social-determinant and the digital. The criterion for their differentiation is the change in the dominant mode of explaining mental health: from the identification and classification of individual pathology — to the analysis of the interaction of the personality with the social and digital environment. These stages do not have rigid chronological boundaries and do not imply the complete displacement of one approach by

another. They reflect the successive expansion of the range of factors recognised as significant for the formation of mental health.

The first stage is characterised by the dominance of the clinical-psychiatric paradigm, which retained leading positions throughout most of the 20th century. Within this approach mental health was defined primarily through the absence of mental illness, while adolescence and youth were regarded as periods of heightened biological and psychological vulnerability. The main attention was devoted to the diagnosis, classification and treatment of mental disorders [1]. Social, cultural and educational conditions were taken into account, but did not occupy a central place in the explanation of mental health.

The second stage is associated with the formation in the second half of the 20th century of the biopsychosocial paradigm. The works of George L. Engel and the ecological theory of Urie Bronfenbrenner expanded the understanding of the nature of mental health, showing that it is formed as a result of the interaction of a person's biological characteristics, psychological traits and social environment [4; 7]. Mental health came to be regarded not exclusively as a medical problem, but as a complex phenomenon closely linked to the family environment, upbringing, education and social adaptation. The subsequent development of this model led to an understanding of health as a dynamic system of interrelated processes [13]. The biopsychosocial approach retains its significance in the contemporary research paradigm [40].

The third stage is determined by the establishment of the concept of social determinants of health, which received institutional consolidation in the research of the World Health Organization and the WHO Commission on Social Determinants of Health [39]. Unlike the biopsychosocial model, which establishes a general interconnection between the personality and the environment, this approach shifted attention to structural social conditions: social inequality, the level of education, the material situation of the family, the quality of social relations, the accessibility of medical and psychological care, discrimination, isolation and violence. Thereby mental health came to be regarded not only as an individual state, but also as an indicator of the quality of the social environment [37; 40].

Such an expansion of the research perspective is particularly significant with regard to children and adolescents, since their mental well-being depends directly on the family, school, relations with peers and the accessibility of support. Adolescence was recognised as an independent stage of the life cycle that lays the foundations of future health [29]. In international programmes for the promotion of mental health the emphasis gradually shifted from the treatment of already formed disorders to early prevention, the development of

psychological resilience and the creation of a supportive educational and social environment [32; 38; 40].

The fourth, digital stage is formed at the end of the 20th and in the first quarter of the 21st century and is linked to the transformation of the very environment of socialisation. Social networks, digital platforms, mobile technologies and algorithmically personalised services have become everyday spaces of communication, learning, self-presentation and identity formation [2; 19]. The digital environment has not replaced the family, school and immediate social surroundings, but has changed the ways of their interaction and created new mechanisms for the dissemination of social norms, comparison and the receipt of feedback.

The digital stage is distinguished not because technologies have generated fundamentally new forms of mental distress, but because they have transformed the intensity, speed and scale of the impact of the social environment. Digital technologies expand access to information, psychological support and educational resources [3; 24; 26], yet at the same time are associated with risks of cyberbullying, problematic social media use, information overload, sleep disturbances and emotional stress [10; 17; 19; 23]. The influence of the digital environment in this regard depends on the content of activity, the nature of online communication, age, sex, family support and the initial psychological state of the young person [19; 20].

Thus, the historical evolution of scientific ideas about youth mental health represents not a linear succession of mutually exclusive concepts, but a successive expansion of the research perspective. The clinical-psychiatric, biopsychosocial and social-determinant paradigms retain their significance at the digital stage as well. The proposed periodisation makes it possible to trace how psychological, social, institutional and digital factors were successively added to individual and medical explanations, and serves as a basis for the further analysis of gender differences.

2. Gender Differences in Youth Mental Health: Results of International Studies

Research on gender differences in youth mental health has undergone a long path of development, reflecting the general evolution of scientific ideas about the interaction of biological, social and cultural factors. Whereas studies of the second half of the 20th century often explained differences between boys and girls primarily through physiological characteristics and age-related changes, contemporary interdisciplinary science regards them as the result of the interaction of biological predispositions, processes of socialisation, gender social norms, the institutional environment and the cultural context [6; 27; 30].

The most large-scale international studies of recent years confirm the existence of stable differences in the forms of manifestation of psycho-emotional distress. According to data from the Health Behaviour in School-aged Children (HBSC) 2021–2022 programme, which covered approximately 280 thousand adolescents from 44 countries of Europe, Central Asia and North America, girls more frequently report anxiety, emotional exhaustion, sleep disturbances, feelings of loneliness and life dissatisfaction [9; 45]. Among boys, certain externally directed forms of psychological maladaptation are more often recorded, including aggressive, impulsive and risk-taking behaviour [27; 42]. Similar tendencies are presented in materials of the international Global School-based Student Health Survey (GSHS) programme, implemented in more than 90 countries [42].

Gender differences become particularly noticeable in adolescence — a period of active identity formation, expansion of social contacts and intensification of the influence of the educational environment [29]. In this period the significance of social expectations, ideas about “masculine” and “feminine” models of behaviour, academic pressure and relations with peers increases. At the same time, the scale of the identified differences varies depending on the cultural context, the level of gender equality, the accessibility of psychological assistance and the quality of social support. Therefore, the observed tendencies cannot be explained exclusively by biological factors [6; 27].

Gender social norms influence not only the prevalence of particular manifestations of distress, but also the ways of their expression. The social acceptability of open expression of anxiety, fear and emotional vulnerability may contribute to the more frequent identification of internalising symptoms among girls. Requirements of emotional restraint, self-reliance and conformity to normative ideas of masculinity can hinder boys’ help-seeking and channel psychological tension into externally directed or risk-taking forms of behaviour [6; 27]. Consequently, statistical differences may simultaneously reflect real unequal vulnerability, peculiarities of socialisation and differences in the detection of psychological problems.

The COVID-19 pandemic made it possible to assess the stability of these tendencies under conditions of a global social crisis. Systematic reviews and meta-analyses recorded a significant spread of anxiety and depressive symptoms among children and adolescents, especially among girls [14; 25]. However, the pandemic did not create gender differences anew, but intensified the action of already existing factors: social isolation, family tension, educational uncertainty and unequal access to support. Therefore its consequences should be interpreted as the result of the interaction of a crisis situation with previously formed social and gender mechanisms.

The educational environment also acts as a significant factor of mental well-being. High educational results in themselves do not guarantee the absence of anxiety, fear of failure and emotional tension [21]. The school can simultaneously serve as a source of academic pressure and as a crucial space for prevention, social support and early detection of psychological difficulties [38]. Gender differences in the experience of educational stress depend on the expectations of the family and teachers, models of success and ways of evaluating the behaviour of girls and boys.

A new stage of research is linked to the impact of the digital environment. Social platforms provide adolescents with opportunities for communication, self-expression, identity formation and the receipt of support [2]. At the same time, social comparison, cyberbullying, problematic platform use and the algorithmically organised dissemination of content can intensify already existing psychological vulnerability [10; 17; 19; 23]. In this regard the influence of the digital environment is not the same for all young people and depends on age, sex, the nature of digital activity, the family context and the initial mental state [19; 20].

Digital practices of girls are more often linked to interpersonal communication, self-presentation and the receipt of social feedback, which may increase sensitivity to comparison, evaluation of appearance and cyberbullying. For boys certain risks associated with online games, competitive communities and demonstrative models of behaviour are more characteristic. These tendencies should not be regarded as universal: they reflect probabilistic differences that depend on the cultural and social context. The digital environment does not create gender norms independently, but reproduces, modifies and intensifies mechanisms of socialisation that exist beyond it [6; 27].

Thus, international studies testify to a transition from a predominantly biological explanation of gender differences to a comprehensive interpretation that takes into account the interaction of biological predispositions, social institutions, cultural norms, the educational environment and digital processes. The COVID-19 pandemic and digital transformation did not alter the fundamental character of the identified differences, but intensified the action of existing risk factors and made more visible the dependence of youth mental health on historically formed mechanisms of socialisation.

3. Digital Transformation as a New Historical Stage of Socialisation and a Factor of Youth Mental Health

The first quarter of the 21st century marked a qualitatively new stage in the historical development of socialisation processes, conditioned by the large-scale digital transformation of society. Whereas throughout most of the 20th century the leading agents of socialisation

were the family, educational institutions, the immediate social environment and traditional mass media, under contemporary conditions a significant part of the formation of social representations, models of behaviour, value orientations and emotional experience of youth takes place in the digital space. Social networks, mobile technologies, recommendation algorithms and artificial intelligence systems have turned from auxiliary means of communication into a permanent component of socialisation that operates in interaction with the family, school and immediate social surroundings [2; 19; 31].

The historical evolution of digital socialisation reflects the successive change in the character of human interaction with the information environment. At the early stage of Internet development digital technologies performed primarily information-communication functions. Subsequently they began to be used in educational activity, professional interaction and everyday interpersonal communication. The COVID-19 pandemic accelerated this process, integrating digital technologies into education, labour activity, psychological support and social interaction [14; 25; 36]. The contemporary stage is characterised by the spread of generative artificial intelligence, intelligent digital assistants and algorithmically personalised services that form the individual information space of the user [31].

The digital environment differs from preceding forms of communication by the continuity of impact, the high speed of information dissemination, interactivity and algorithmic personalisation. It not only transmits content, but also organises its visibility, repeatability and sequence of presentation to the user. As a result, digital platforms participate in the formation of ideas about the prevalence and social acceptability of certain models of behaviour. This makes it possible to regard the digital stage as a change not in the content of mental disorders, but in the environment and mechanisms of socialisation.

In the scientific literature three interrelated mechanisms of the impact of the digital environment can be distinguished. The first is cognitive, linked to information overload, constant switching of attention, disturbance of sleep regime and reduction of the capacity for prolonged concentration. The second is social, manifested through social comparison, digital reputation, virtual ties and change in the character of interpersonal relations. The third is algorithmic, conditioned by the personalisation of information flows, the functioning of recommendation systems and the application of artificial intelligence [17; 19; 23; 31]. This distinction is analytical in character, since in real digital communication these mechanisms operate simultaneously.

Results of international studies testify to the dual character of digital transformation. On the one hand, digital technologies have expanded young people's access to education, medical

information, psychological counselling, social services and various forms of interaction. Internet-oriented programmes can be used to support students with anxiety and depressive symptoms [3], and digital interventions aimed at lifestyle change under certain conditions contribute to the improvement of individual indicators of adolescents' mental well-being [26]. At the same time, socially and digitally marginalised groups of youth may encounter economic, technical, linguistic and cultural barriers to access to such assistance [24].

On the other hand, intensive use of digital platforms is associated with anxiety, emotional exhaustion, sleep disturbances, reduction of self-esteem and subjective psychological well-being [10; 17; 19]. However, the existence of a statistical association does not mean a direct causal dependence. Contemporary reviews show that the impact of the digital environment is determined not only by the duration of device use, but also by the nature of activity, the content of the consumed content, the quality of online communication and the social environment of the adolescent's development [19; 23]. Therefore the same duration of presence in the digital space may be accompanied by different psychological consequences.

Contemporary scientific literature is gradually abandoning technological determinism that regards digital technologies as an independent cause of the deterioration of mental health. The digital environment interacts with already existing factors — family relations, educational stress, the level of social support, economic conditions and gender social norms. Consequently, digital technologies represent an element of a broader system of social interactions corresponding to the biopsychosocial understanding of mental health [7; 13; 19; 40].

Particular significance attaches to the gender aspects of digital socialisation. Girls more frequently use digital platforms for the maintenance of interpersonal communication and self-presentation, which may increase their susceptibility to social comparison, cyberbullying, digital appearance standards and emotional pressure. For boys certain risks associated with online games, competitive digital communities and demonstrative models of behaviour are more characteristic. These differences are not universal and do not cover all users, but they show that the digital environment is capable of reproducing and intensifying historically formed gender expectations [6; 27].

A special place in the contemporary digital ecosystem is occupied by generative artificial intelligence. Chatbots, virtual assistants, adaptive educational platforms and personalised services are changing the ways of obtaining knowledge, organising learning, communication and the search for psychological information. Artificial intelligence is gradually becoming a new mediator of socialisation that supplements the traditional institutions of the family and education. At the same time its application actualises questions of the reliability of

recommendations, algorithmic bias, the protection of personal data, digital inequality and the preservation of user autonomy [31].

Thus, digital transformation represents not only a technological change, but also a new historical stage in the evolution of the environment and mechanisms of socialisation. Digital platforms, recommendation algorithms and artificial intelligence impact the formation of identity, value orientations and mental well-being of youth in interaction with the family, the education system, cultural traditions and gender social norms. This determines the necessity of developing digital literacy, a safe information space and accessible psychosocial support [31; 40].

4. Gender Aspects of Youth Mental Health in the Republic of Uzbekistan: The National Context of Global Transformations

The development of state policy in the sphere of youth mental health protection in the Republic of Uzbekistan reflects a gradual transition from a predominantly therapeutic to a preventive model that regards mental well-being as the result of the interaction of the family, the educational environment, the healthcare system, social institutions and digital technologies. Such an approach corresponds to the contemporary concept of the World Health Organization, oriented towards the prevention of mental disorders not only within the healthcare system, but also in the family, educational and social environment [32; 40].

The formation of a national evidence base became possible thanks to the first large-scale study of schoolchildren's mental health conducted in 2022 by UNICEF jointly with the Ministry of Public Education and the Ministry of Health of the Republic of Uzbekistan. The study covered 22,854 pupils from 299 schools in all 14 regions of the country and made it possible to comprehensively assess the mental well-being of adolescents, including indicators of school adaptation, social integration and emotional state [35].

According to UNICEF data, 8.7 % of schoolchildren do not feel an emotional connection with the school, 13.1 % do not perceive themselves as part of the school community, and 16.7 % regularly experience a sense of loneliness in the classroom [35]. According to MICS 2021–2022, symptoms of anxiety were identified in 12.9 % of children and adolescents aged 5–17 years, and symptoms of depression in 3.5 % of those surveyed [33; 35]. These indicators characterise different aspects of the psycho-emotional state and should not be interpreted as clinical diagnoses.

The prevalence of emotional difficulties increases with age and is more frequently recorded among girls [35]. This tendency is consistent with HBSC materials and international meta-analyses showing a higher prevalence of anxiety and depressive symptoms among

adolescent girls [9; 14; 25; 45]. At the same time, direct comparison of MICS and HBSC indicators is limited by differences in age groups, measurement instruments and data-collection methods.

National specificity is determined by the preservation of the high role of traditional institutions of socialisation. The family, the mahalla and extended kinship ties continue to perform the functions of upbringing, social control, mutual support and transmission of cultural norms. Simultaneously, urbanisation, digitalisation and modernisation of education are changing the customary mechanisms of socialisation. Young people are included simultaneously in a local social environment regulated by family and community expectations, and in a global digital space that disseminates other models of behaviour and self-presentation.

Such a combination should not be treated as a simple opposition of traditional and digital mechanisms. Digitalisation does not cancel the influence of the family and the mahalla, but changes the ways of their interaction with youth. The digital behaviour of an adolescent continues to be evaluated by the immediate social surroundings, while the content of global platforms is interpreted through national and family values. As a result, a hybrid environment of socialisation is formed in which digital practices interact with local cultural and gender norms.

Regional differences in the accessibility of psychosocial assistance remain a significant factor. Opportunities for obtaining psychological support depend on the place of residence, the staffing of educational institutions and the accessibility of specialised care [35]. Therefore differences between the urban and rural environments must be taken into account when interpreting national indicators and developing preventive programmes.

Additional indicators are provided by data of the Ministry of Health of the Republic of Uzbekistan. According to the UNICEF situational analysis, the frequency of first-registered mental disorders among children increased from 79 per 100,000 of the child population in 2019 to 81 per 100,000 in 2022 [35]. This growth cannot be unambiguously interpreted as an increase in the real prevalence of mental disorders. It may be linked both to changes in children's mental health and to the improvement of diagnostics, the expansion of accessibility of specialised care and the gradual reduction of stigma.

The preventive model is implemented in UNICEF programmes aimed at the development of psychological resilience, emotional literacy and life skills. According to data of the UNICEF Representation in Uzbekistan, such programmes have covered approximately 6 million schoolchildren, almost half of whom are girls [35]. The Internet of Good Things platform has been operating in Uzbekistan since 2022, and by 2024 more than 400 thousand adolescents

had used its resources. In the Republic of Karakalpakstan 400 girls were trained as peer consultants, and more than 5 thousand girls received psychological and informational support [35].

The most significant feature of the national context consists in the simultaneous impact of traditional gender expectations and the digital environment. For girls the family and the local community may act as sources of support, yet at the same time impose stricter requirements regarding behaviour, reputation and the social acceptability of self-presentation. Digital platforms expand the space of communication and access to information, yet are capable of intensifying social comparison and emotional pressure. For boys normative expectations of self-reliance and emotional restraint may hinder timely seeking of psychological help.

These propositions represent an analytical interpretation based on the juxtaposition of international studies with national materials, and not the result of a separate empirical measurement of the influence of the family, the mahalla and the digital environment. The available data make it possible to determine the main directions of analysis, but are as yet insufficient for establishing direct causal links between gender norms, digital practices and specific indicators of mental health in Uzbekistan.

Thus, the mental health of youth in Uzbekistan is formed in the interaction of traditional institutions of socialisation, the educational environment, the digital space and the state system of psychosocial support. The national material confirms the necessity of gender-sensitive preventive programmes, the strengthening of the school psychological service, the reduction of regional differences in the accessibility of assistance and the development of safe digital services. At the same time, the limited nature of national research requires caution in the extrapolation of international conclusions and underlines the necessity of further study of the interaction of traditional and digital mechanisms of socialisation.

Discussion. The conducted study confirms that the contemporary scientific paradigm regards the mental health of youth as a complex and historically changeable phenomenon formed as a result of the interaction of biological, psychological, social, cultural, institutional and digital factors. The historical analysis made it possible to identify the successive expansion of the scientific understanding of mental health: the clinical-psychiatric approach was supplemented by the biopsychosocial model, the concept of social determinants of health and studies of the digital environment. In this process new approaches did not displace the preceding ones, but expanded the range of factors taken into account in explaining the mental well-being of youth.

The proposed four-stage periodisation reflects the change in the dominant mode of explaining mental health. The clinical-psychiatric stage is concentrated on the diagnosis and classification of mental disorders; the biopsychosocial stage — on the interaction of biological, psychological and social factors; the social-determinant stage — on structural living conditions and social inequality; the digital stage — on the transformation of the environment and mechanisms of socialisation under the impact of platforms, algorithms and artificial intelligence. The boundaries between these stages are conventional, since the corresponding research approaches continue to coexist.

The juxtaposition of materials from HBSC, GSHS, MICS, the World Health Organization, UNICEF and data on the Republic of Uzbekistan testifies to the stability of a number of gender tendencies. Girls more frequently report anxiety and depressive symptoms, emotional tension and sleep disturbances, whereas among boys certain externally directed and risk-taking forms of behaviour are more often identified [9; 14; 25; 27; 45]. At the same time these differences cannot be regarded as universal or explained exclusively by sex. Their intensity depends on age, cultural context, socio-economic conditions, the educational environment, the accessibility of psychological assistance and the ways of detecting psycho-emotional problems.

Gender norms influence not only the probability of the emergence of psychological difficulties, but also the ways of their expression and recognition. The higher frequency of registered anxiety and depressive symptoms among girls may simultaneously reflect peculiarities of vulnerability, the intensity of social pressure and a greater readiness to report emotional problems. Relatively lower indicators of internalising symptoms among boys do not necessarily testify to their better mental well-being, since normative requirements of emotional restraint may hinder help-seeking and contribute to the externally directed expression of psychological tension [6; 27].

The COVID-19 pandemic and digital transformation did not create fundamentally new gender differences, but intensified the action of already existing risk factors. Social isolation, disruption of the educational process, family tension and uncertainty contributed to the growth of anxiety and depressive symptoms among children and adolescents [14; 25]. The digital environment, in its turn, expanded opportunities for communication, learning and obtaining support, yet at the same time increased the significance of social comparison, online reputation, cyberbullying and algorithmically organised informational impact [10; 17; 19; 23].

The obtained results do not confirm a technologically deterministic explanation according to which digital technologies themselves are the direct cause of the deterioration of mental health. Their impact depends on the content of digital activity, the nature of

communication, the age of the user, the initial mental state, family support and the educational context [19; 20]. Consequently, digital platforms should be regarded as an environment that can both expand the psychological and educational resources of youth and intensify already existing vulnerability.

The spread of generative artificial intelligence continues this historical transformation. Intelligent systems create new opportunities for educational and informational support, yet at the same time actualise questions of the reliability of recommendations, algorithmic bias, transparency, the protection of personal data and digital inequality [31]. The available evidence base does not yet permit unambiguous conclusions about the long-term influence of generative artificial intelligence on the mental health of youth. Therefore it should be regarded as an emerging factor of socialisation whose consequences depend on the institutional and social conditions of application.

Materials on the Republic of Uzbekistan supplement international studies and show the specificity of a society in which digital modernisation occurs while the high role of the family, the mahalla and extended kinship ties is preserved. National data confirm the presence of psycho-emotional difficulties among children and adolescents: 8.7 % of schoolchildren do not feel an emotional connection with the school, 13.1 % do not perceive themselves as part of the school community, and 16.7 % regularly experience loneliness in the classroom [35]. According to MICS 2021–2022, symptoms of anxiety were identified in 12.9 % of children and adolescents aged 5–17 years, and symptoms of depression in 3.5 % of those surveyed [33; 35].

These indicators should not be interpreted as evidence of the direct impact of traditional gender norms or digital technologies. National materials do not yet make it possible to establish causal links between the psycho-emotional state, gender socialisation and digital practices. However, their juxtaposition with international studies allows the analytical hypothesis to be advanced that a hybrid environment of socialisation is being formed in which digital platforms do not displace traditional institutions, but interact with family, local and cultural norms.

The scientific novelty of the study consists in the historical-humanitarian interpretation of gender differences in the mental health of youth and in the proposal of a four-stage periodisation of the development of scientific ideas about their nature. Within this interpretation the digital stage is defined not by the emergence of new mental disorders, but by the transformation of the environment and mechanisms of socialisation. The application of this scheme to materials on Uzbekistan makes it possible to regard the national context as an example of the interaction of the global digital environment with traditional institutions of socialisation.

The practical significance of the results is linked to the possibility of their use in the improvement of state policy in the sphere of youth mental health protection. Promising directions include the development of interaction between education, healthcare and social protection, the strengthening of the school psychological service, the enhancement of digital literacy, the creation of a safe information environment and the introduction of gender-sensitive preventive programmes [32; 40]. Such measures should take into account regional differences, the cultural context and the unequal ways of manifestation of psycho-emotional difficulties among girls and boys.

The limitations of the study are determined by its review-analytical character, the heterogeneity of the psychometric methods used, differences in age groups and the design of the examined studies. HBSC, GSHS, MICS and national registration statistics employ different instruments and cannot be regarded as directly comparable sources. An additional limitation is the insufficient quantity of long-term studies of the mental health and digital socialisation of youth in the countries of Central Asia. Therefore conclusions about the mechanisms of interaction of gender norms, traditional institutions and the digital environment are analytical in character and require further empirical verification.

Conclusion. The conducted review has shown that the contemporary understanding of youth mental health has been formed as a result of the long-term expansion of the scientific paradigm — from the clinical-psychiatric model to the biopsychosocial, social-determinant and digital approaches. These approaches did not successively displace one another, but supplemented the scientific understanding of mental health with new levels of analysis. As a result, the mental well-being of youth came to be regarded as the outcome of the interaction of individual characteristics with historically changing social institutions and conditions of socialisation.

International studies confirm the existence of gender differences in the forms of manifestation of psycho-emotional distress. Girls more frequently report anxiety and depressive symptoms and emotional tension, whereas among boys certain externally directed and risk-taking forms of behaviour are more noticeable. These tendencies are conditioned by the interaction of biological predispositions with gender social norms, cultural expectations, the educational environment and the accessibility of psychological support. Therefore they cannot be interpreted as unchanging or universal characteristics of girls and boys.

Digital transformation represents a new historical stage in the development of the environment and mechanisms of socialisation. Digital platforms, algorithmically personalised services and generative artificial intelligence do not create fundamentally new patterns of

mental distress, but alter the intensity and forms of impact of already existing social factors. At the same time digital technologies expand opportunities for psychological education, educational support and access to psychosocial assistance. Their consequences are determined not only by technological characteristics, but also by the social context of use.

Materials on the Republic of Uzbekistan show that the mental health of youth is formed under conditions of the simultaneous influence of the family, the mahalla, the educational environment, the state system of support and digital platforms. National specificity consists not in the opposition of traditional and modern institutions, but in their interaction. The available data make it possible to identify the main tendencies, but are as yet insufficient for establishing direct causal links between gender norms, digital practices and mental health.

The scientific novelty of the study lies in the proposal of a historical-humanitarian periodisation of the development of ideas about youth mental health and in the application of this scheme to the analysis of gender differences under conditions of digital transformation. The proposed approach makes it possible to regard digitalisation as a change in the environment of socialisation and to explain its consequences through interaction with already existing social, cultural and institutional factors.

The practical significance of the study consists in the substantiation of the necessity of gender-sensitive preventive programmes, the strengthening of the school psychological service, the reduction of regional inequality in the accessibility of assistance and the development of digital literacy. Prospects for further research are linked to the empirical study of the interaction of traditional institutions of socialisation and the digital environment, the comparison of urban and rural territories, and the analysis of the long-term influence of generative artificial intelligence on the mental well-being of youth in Uzbekistan and other countries of Central Asia.

References:

1. American Psychiatric Association. (2022). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., text rev.; DSM-5-TR). American Psychiatric Association Publishing.
2. Avci, H., Baams, L., & Kretschmer, T. (2025). A systematic review of social media use and adolescent identity development. *Adolescent Research Review*, 10(2), 219–236. <https://doi.org/10.1007/s40894-024-00251-1>
3. Benjet, C., Zainal, N. H., Albor, Y., Alvis-Barranco, L., Carrasco-Tapias, N., Contreras-Ibáñez, C. C., Cuijpers, P., Ebert, D. D., Furukawa, T. A., Karyotaki, E., Reijnders, M., Weisel, K. K., Harrer, M., Purgato, M., Barbui, C., & Kessler, R. C. (2023). A precision treatment model for internet-delivered cognitive behavioral therapy for anxiety and depression among

university students: A secondary analysis of a randomized clinical trial. *JAMA Psychiatry*, 80(8), 768–777. <https://doi.org/10.1001/jamapsychiatry.2023.1384>

4. Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.

5. Dartmouth Summit on Youth Mental Health. (2025). *The Dartmouth Call to Action: Safeguarding youth mental health and rights in a digital age*. Dartmouth College & Global Mental Health Initiative.

6. Eagly, A. H., & Wood, W. (2013). The nature–nurture debates: 25 years of challenges in understanding the psychology of gender. *Perspectives on Psychological Science*, 8(3), 340–357. <https://doi.org/10.1177/1745691613484767>

7. Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, 196(4286), 129–136. <https://doi.org/10.1126/science.847460>

8. Guterres, A. (2023, October 10). Secretary-General's message on World Mental Health Day: "Mental health is a universal human right". United Nations. <https://www.un.org/sg/en/content/sg/statement/2023-10-10/secretary-generals-message-world-mental-health-day-scroll-down-for-french>

9. HBSC Study Network. (2023). *Health Behaviour in School-aged Children (HBSC): International Report from the 2021/2022 Survey*. WHO Regional Office for Europe.

10. Keles, B., McCrae, N., & Grealish, A. (2020). A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth*, 25(1), 79–93.

11. Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 593–602.

12. Kieling, C., Baker-Henningham, H., Belfer, M., Conti, G., Ertem, I., Omigbodun, O., Rohde, L. A., Srinath, S., Ulkuer, N., & Rahman, A. (2011). Child and adolescent mental health worldwide: Evidence for action. *The Lancet*, 378(9801), 1515–1525. [https://doi.org/10.1016/S0140-6736\(11\)60827-1](https://doi.org/10.1016/S0140-6736(11)60827-1)

13. Lehman, B. J., David, D. M., & Gruber, J. (2017). Rethinking the biopsychosocial model of health: Understanding health as a dynamic system. *Social and Personality Psychology Compass*, 11(8), e12328.

14. Ma, L., Mazidi, M., Li, K., Li, Y., Chen, S., Kirwan, R., Zhou, H., Yan, N., Rahman, A., Wang, W., & Wang, Y. (2021). Prevalence of mental health problems among children and

adolescents during the COVID-19 pandemic: A systematic review and meta-analysis. *Journal of Affective Disorders*, 293, 78–89. <https://doi.org/10.1016/j.jad.2021.06.021>

15. McGrath, J. J., Al-Hamzawi, A., Alonso, J., Bromet, E. J., Bruffaerts, R., de Girolamo, G., de Jonge, P., Fayyad, J., Florescu, S., Gureje, O., Haro, J. M., Hu, C., Karam, E. G., Kovess-Masfety, V., Lee, S., Lepine, J. P., Levinson, D., Navarro-Mateu, F., Pennell, B.-E., Shahly, V., ten Have, M., Torres, Y., Viana, M. C., Zarkov, Z., Kessler, R. C., & WHO World Mental Health Survey Collaborators. (2023). Age of onset and cumulative risk of mental disorders: A cross-national analysis of population surveys from 29 countries. *The Lancet Psychiatry*, 10(9), 668–681. [https://doi.org/10.1016/S2215-0366\(23\)00193-1](https://doi.org/10.1016/S2215-0366(23)00193-1)

16. Mohan, A., Kosteletzky, S. M., Sivakumar, A., Khalil, M., & Clark, H. (2022). Improving adolescent wellbeing is an urgent global priority. *BMJ*, 379, o2551. <https://doi.org/10.1136/bmj.o2551>

17. Mulisa, F., Kejela, M., & Dido, J. S. (2026). Social media trap: A systematic review of the content and pathways that affect adolescents' mental health. *Journal of Technology in Behavioral Science*. Advance online publication.

18. Newby, H., Hagell, A., Marsh, A. D., Guthold, R., Baltağ, V., Ross, D. A., & Diaz, T. (2022). Opportunities to advance measurement of adolescent wellbeing: Building on a new conceptual framework. *BMJ*, 379, e068955. <https://doi.org/10.1136/bmj-2021-068955>

19. Odgers, C. L., & Jensen, M. R. (2020). Annual research review: Adolescent mental health in the digital age. *Journal of Child Psychology and Psychiatry*, 61(3), 336–348. <https://doi.org/10.1111/jcpp.13190>

20. Orben, A., Bányaı, F., & Przybylski, A. K. (2019). Social media's enduring effect on adolescent life satisfaction. *Proceedings of the National Academy of Sciences*, 116(21), 10226–10228.

21. Organisation for Economic Co-operation and Development. (2023). *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*. OECD Publishing. <https://doi.org/10.1787/53f23881-en>

22. Patel, V., Saxena, S., Lund, C., Thornicroft, G., Baingana, F., Bolton, P., ... & UnŰzer, J. (2018). The Lancet Commission on global mental health and sustainable development. *The Lancet*, 392(10157), 1553–1598.

23. Pazdur, M., Tutus, D., & Haag, A.-C. (2025). Risk factors for problematic social media use in youth: A systematic review of longitudinal studies. *Adolescent Research Review*, 10(2), 237–253. <https://doi.org/10.1007/s40894-025-00264-4>

24. Piers, R., Williams, J. M., & Sharpe, H. (2023). Review: Can digital mental health interventions bridge the "digital divide" for socioeconomically and digitally marginalised youth? A systematic review. *Child and Adolescent Mental Health*, 28(1), 90–104. <https://doi.org/10.1111/camh.12620>
25. Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: A meta-analysis. *JAMA Pediatrics*, 175(11), 1142–1150. <https://doi.org/10.1001/jamapediatrics.2021.2482>
26. Raeside, R., Jia, S. S., Todd, A., Hyun, K., Singleton, A., Gardner, L. A., Champion, K. E., Redfern, J., & Partridge, S. R. (2024). Are digital health interventions that target lifestyle risk behaviors effective for improving mental health and wellbeing in adolescents? A systematic review with meta-analyses. *Adolescent Research Review*, 9(2), 193–226. <https://doi.org/10.1007/s40894-023-00224-w>
27. Riecher-Rössler, A., & Derntl, B. (Eds.). (2025). *Sex and gender differences in mental health: From neurobiology to digital society*. Springer Nature.
28. Salk, R. H., Hyde, J. S., & Abramson, L. Y. (2017). Gender differences in depression in representative national samples: Meta-analyses of diagnoses and symptoms. *Psychological Bulletin*, 143(8), 783–822.
29. Sawyer, S. M., Afifi, R. A., Bearinger, L. H., Blakemore, S. J., Dick, B., Ezeh, A. C., & Patton, G. C. (2012). Adolescence: a foundation for future health. *The Lancet*, 379(9826), 1630–1640.
30. Scott, J. W. (1986). Gender: A useful category of historical analysis. *The American Historical Review*, 91(5), 1053–1075. <https://doi.org/10.2307/1864376>
31. UNESCO. (2023). *Guidance for Generative AI in Education and Research*. UNESCO.
32. UNICEF. (2021). *The State of the World's Children 2021: On My Mind – Promoting, Protecting and Caring for Children's Mental Health*. UNICEF.
33. UNICEF. (2022). *Uzbekistan Multiple Indicator Cluster Survey 2021–2022: Survey Findings Report*. UNICEF.
34. UNICEF. (2025). *Perception of youth mental health report 2025: Understanding the mental health impact of global challenges on Gen Z*. Global Coalition for Youth Mental Health.
35. UNICEF Uzbekistan. (2024). *Situation Analysis of Children and Adolescents in Uzbekistan*. UNICEF Uzbekistan.

36. United Nations. (2020). Policy brief: COVID-19 and the need for action on mental health. United Nations.
37. Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet*, 379(9826), 1641–1652.
38. Weare, K., & Nind, M. (2011). Mental health promotion and problem prevention in schools: what does the evidence say? *Health Promotion International*, 26(suppl_1), i29–i69. <https://doi.org/10.1093/heapro/dar075>
39. World Health Organization. (2008). Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health. World Health Organization.
40. World Health Organization. (2022). World Mental Health Report: Transforming Mental Health for All. World Health Organization.
41. World Health Organization. (2023). World Mental Health Day 2023: Mental health is a universal human right. World Health Organization.
42. World Health Organization. (2024). Adolescent and young adult health (Fact sheet). World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/adolescent-health-and-well-being>
43. World Health Organization. (2025). Child and adolescent health and well-being strategy 2026–2030: Addressing mental health burden in young population. WHO Regional Office for Europe.
44. World Health Organization, & Office of the High Commissioner for Human Rights. (2023). Mental health, human rights and legislation: Guidance and practice. World Health Organization & United Nations.
45. World Health Organization Regional Office for Europe. (2024). A Focus on Adolescent Mental Health and Well-Being in Europe, Central Asia and Canada. WHO Regional Office for Europe.