

Research on the Innovative Path of College Students' Mental Health Education in the Context of Digital Transformation

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ABSTRACT

With the rapid development of society and the influence of the post epidemic era, the mental health challenges faced by college students are becoming more and more prominent. Through literature analysis, case studies and field research, it is found that there are problems such as lagging educational content, weak application of technology, and imbalance of supply and demand matching in mental health education in colleges and universities. The study proposes a "three-dimensional" transformation model, which constructs a modern mental health education system in three dimensions: space, time and object, and realizes the transformation through the empowerment of intelligent technology, innovation of service mode and improvement of guarantee mechanism, providing theoretical basis and practical reference for the modernization and transformation of mental health education in colleges and universities.

KEYWORDS

Mental health education; psychological counseling; stress management; psychological problems

With the in-depth promotion of the strategy of "Healthy China 2030", mental health education has been elevated to an important level in the construction of the national public health system. The Ministry of Education has clearly stated in the Guidelines for Mental Health Education for Students in Colleges and Universities that it is necessary to build an "all-member, all-course, all-encompassing" mental health education system, and to strengthen the preventive, developmental, and interventionist functions of college and university psychological services. At the same time, the psychosocial stress reaction in the post epidemic era continues to appear, and the detection rate of depression, anxiety and other psychological problems in the college student population is on the rise, so the social demand for mental health education and policy support form a two-way drive to promote the digital transformation of the psychological service system in colleges and universities.

1 Research Background

As the main body of higher education, post-00 college students present distinctive generational characteristics: they are digital natives, accustomed to instantaneous and fragmented information acquisition, and at the same time, they face the challenge of self-identification under the impact of diversified values. 2023 China College Students' Mental Health Survey Report shows that nearly 40% of the students suffer from different degrees of academic stress, and more than 25% of the respondents said they had sought psychological help due to social anxiety. The psychological needs of this group have changed from traditional crisis intervention to personalized and developmental support, forcing the innovation and upgrading of mental health education models.

At present, mental health education in colleges and universities is still generally lagging behind in educational content, weak application of technology, and imbalance in matching supply and demand, etc. The traditional working model of "focusing on intervention and not on prevention" is difficult to adapt to the development trend of education modernization. Digital transformation is profoundly reconstructing the education ecology, and the maturity of artificial intelligence, big data and other technologies has made it possible to provide accurate psychological services. Therefore, exploring the path of modernization and transformation of mental health education is not only an inevitable requirement for the implementation of the fundamental task of "cultivating morality and educating people", but also a key breakthrough to enhance the effectiveness of psychological education.

2 The current situation and challenges of college students' mental health education

Currently, mental health education in China's colleges and universities generally adopts the three-level working model of "popular education-consultation service-crisis intervention", and some colleges and universities have begun to

explore innovative paths. For example, Tsinghua University has implemented the “Positive Psychology Education” model, which enhances students' mental toughness through the positive psychology curriculum; Zhejiang University has built a digital psychology service platform, which realizes the online integration of counseling appointments, self-help assessment, etc. However, these advanced cases have not yet been widely implemented. However, these advanced cases have not yet formed a wide demonstration effect, and the majority of colleges and universities' mental health education still remains in the primary stage of traditional lectures, group counseling and individual counseling, and there is an obvious generation gap between the education means and the actual needs of college students.

In-depth analysis shows that the existing system faces multidimensional difficulties: at the content level, psychological courses are seriously homogenized and fail to be designed at different levels according to the characteristics of students of different grades and majors; the application of technology is lagging behind, with about 67% of colleges and universities still using paper-based quality scales to carry out psychological screenings (Ministry of Education's research data of 2022), and the coverage of the intelligent early warning system is less than 30%; and in terms of resource allocation, the average service ratio of psychological counselors in colleges and universities is as high as The average service ratio of psychological counselors is as high as 1:4000, far below the international standard of 1:1000.

The deeper contradiction lies in the fact that college students pursue highly personalized psychological support, but what colleges and universities provide is still a standardized service process. At the same time, contemporary psychological problems show a hidden trend, such as “smile depression”, “social terrorism” and other phenomena are often difficult to detect through traditional observation, and the existing early warning mechanism relies on quarterly census, the response lag is significant. Studies have shown that only 12% of students diagnosed with psychological crises were identified through routine screening, while the rest were intervened only due to emergencies. This mismatch between supply and demand and the bottleneck of effectiveness needs to be broken through systemic transformation.

3 Driving factors for modernization and transformation

Currently, the modernization and transformation of college students' mental health education is ushering in the dual opportunities of policy and technology. At the national level, the “Education Digitization Strategic Action” launched in 2022 explicitly requires colleges and universities to strengthen the construction of intelligent education platforms, and in 2025, the Ministry of Education and other nine departments issued the “Opinions on Accelerating the Advancement of Educational Digitization”, which provides a policy guarantee for the digital transformation of mental health education. Meanwhile, technologies such as AI psychological assessment, VR exposure therapy, and big data early warning models have entered the practical stage. For example, the AI emotion recognition system developed by Beijing Normal University can achieve more than 85% accuracy in identifying depressive tendencies through micro-expression analysis; and the psychological crisis early warning platform built by Shanghai Jiaotong University integrates 10 types of behavioral data, such as academics, consumption, and socialization, so as to increase the accuracy of early warning by 40%. These technological advances have made it possible to break through the time and space constraints and manpower bottlenecks of traditional mental health education.

The demand for transformation also comes from the generational change of education targets.²⁰²⁴ The China Youth Mental Health Survey Report shows that 82% of college students are more inclined to seek psychological help through online channels, a proportion that has increased nearly twofold from 2018. The new generation of college students has three core demands for psychological services: strict privacy protection (68% of respondents avoid offline consultation for fear of information leakage), instant response (expect to get professional feedback within 30 minutes), and strong interactivity (favor gamification and socialization forms of psychological intervention). The case of a university's pilot “psychological service app” shows that after providing 24-hour AI companion chat and anonymous tree-hole function, the utilization rate of students' psychological service increased by 3.2 times, which confirms the necessity of demand-oriented transformation.

International experience provides an important reference for transformation. The “7 Cups” platform in the United States has built a “listener-helper” online mutual support network, which has served 19 million users worldwide, and its crowdsourcing psychological support model significantly reduces the service cost; the TAFE College in Australia has used VR technology to carry out social anxiety treatment, and simulated interviews and speeches in a virtual scene, which reduces the students' score on the anxiety scale by 34% on average. These practices reveal two transformational paths: one is to expand service supply through the sharing economy model, and the other is to utilize immersive technology to enhance the effectiveness of interventions. It is worth noting that the Harvard 2023 study points out that the effectiveness of digital psychoeducation is positively correlated with the degree of localization adaptation, which suggests that China needs to innovate in the light of cultural characteristics and educational systems when learning from international experience

4 The modernization of mental health education transformation of the practice of pathway

The modernization and transformation of mental health education first needs to reconstruct the education system and establish a “three-dimensional” model. In the spatial dimension, it is necessary to build an integrated system of “offline physical counseling rooms + online cloud service platform + mobile micro-applications”, such as the “Mind e-Station” platform created by Fudan University, which has already realized the “one-key access” to online appointments, video counseling, and self-assessment of psychology. In terms of time dimension, a tracking mechanism should be established throughout the entire university cycle: screening for psychological resilience (e.g. Peking University's new student psychological profile system), developmental group counseling (e.g. China University of Political Science and Law's Stress Management Workshop), and vocational psychological adjustment courses before graduation. In terms of target groups, it is necessary to focus on special groups, such as designing a “Resilience Development Program” for poor students and developing a “Cross-cultural Psychological Adaptation Guide” for international students, in order to achieve precise service coverage.

Technological innovation is the core driving force for transformation. In terms of intelligent screening, the “Mood Thermometer” AI model developed by Beijing Normal University has an accuracy of 89.7% in identifying depressive tendencies by analyzing multiple data such as textual emotions and facial micro-expressions. Virtual simulation training has shown unique advantages, such as the VR social fear intervention system developed by Southeast University, which reduces users' LSAS scores by an average of 27.3 points by simulating 16 scenarios such as speeches and interviews. More cutting-edge digital imaging technology is making breakthroughs, Zhejiang University, through the integration of campus card consumption, library access, WiFi connection and other 10 types of behavioral data, to build a psychological profile can be predicted 42 days in advance of the psychological crisis, the false alarm rate of only 5.2%. The application of these technologies not only improves service efficiency, but also realizes a paradigm shift from “passive response” to “active prevention”.

Service model innovation needs to break through the traditional paradigm. In terms of “psychological service +”, positive thinking training can be embedded in the ideology and politics course, for example, Southwest Jiaotong University added an “emotion management” module to the “ideology and moral cultivation” class, and students' participation in the classroom increased by 65%. Innovation in community activities is even more critical. The “Gaming Stress Relief Camp” at the University of Electronic Science and Technology reduces participants' stress levels by 31% through the organization of standardized game activities; the practice of anonymous complaint platforms such as “Tree Hole Mailbox” at Sun Yat-sen University shows that the conversion rate of its help-seeking is 2.4 times higher than that of the traditional hotlines. Peer support networks also need to be digitally upgraded. After mastering basic crisis identification skills, “digital psychologists” trained by Nanjing University carried out grid-based management through WeChat, increasing the detection rate of psychological problems in faculties and departments by three times. These innovations have transformed mental health education from an “island” of professional organizations to an “archipelago” of campus ecology.

A perfect guarantee mechanism is the key to the transformation. Teacher construction should promote “dual-teacher” transformation, that is, psychological counselors need to master the application of AI tools (such as the “psychological big data analysis” teacher training carried out by South China Normal University), and at the same time cultivate specialized AI trainers responsible for the optimization of algorithms. The reform of the evaluation system is even more urgent. Digital twin technology can be used to build a virtual campus environment, such as the simulation system developed by Tianjin University, which can predict the difference in the effectiveness of different intervention programs, thus increasing the scientificity of educational decision-making by 55%. In addition, it is necessary to establish a three-tier protection network: school-level digital psychology center responsible for technical operation and maintenance, faculties and departments to set up full-time “psychological science and technology counselors”, and classes equipped with intelligent monitoring terminals. According to the evaluation of a provincial education department, the input-output ratio of psychological education in colleges and universities with a complete guarantee mechanism reaches 1:7.3, much higher than that of the traditional model of 1:2.1. The systematic implementation of these practical paths will promote the modernization and transformation of mental health education from “treating the disease” to “preventing the disease”.

Overall, the study systematically explores the innovative path of college students' mental health education in the context of digital transformation, and analyzes the main dilemmas faced by college mental health education at present, including the mismatch between educational content and the needs of contemporary college students, insufficient application of technology, and irrational allocation of resources. In the context of the new era, the study points out that policy orientation, technological progress and changes in students' needs together constitute the key driving force for the transformation of mental health education, prompting the transformation of the traditional passive intervention mode to a digital active prevention system. The study innovatively constructs a “three-dimensional” service framework, which realizes the integration of online and offline services in the spatial dimension, establishes a full-cycle tracking mechanism in the temporal dimension, and implements precise services for different student groups; meanwhile, it proposes to

promote the transformation and development through the application of intelligent technology, innovation of diversified service modes, and perfect institutional guarantee. Practice shows that this transformation mode can significantly improve the effectiveness of mental health education. Looking to the future, it is necessary to focus on the in-depth application of virtual reality technology in psychological intervention, establish and improve the ethical norms of artificial intelligence, develop service programs adapted to multicultural backgrounds, and build a multi-party collaborative parenting mechanism, and these explorations will help to form a new system of college students' mental health education that is more intelligent, humanized, and sustainable, and will provide a powerful support for the promotion of the all-round and healthy development of college students.

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