

A Practical Study of Artificial Intelligence Enabling Psychological Parenting in Colleges and Universities

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Abstract

With the rapid development of artificial intelligence and other new productivity, its application prospect of empowering psychological education in colleges and universities is getting broader and broader. Combined with the current development trend of education modernization and the current practice of psychological parenting in colleges and universities, the innovative practice paths of AI-enabled psychological parenting in colleges and universities, such as the intelligent collaborative parenting platform of shared construction, the all-weather psychological counseling service of accurate profiling, and the real-time and efficient multimodal psychological monitoring means, can strengthen and improve the existing psychological parenting mechanism in multiple dimensions. In addition, by analyzing the development prospects, application advantages and possible risks and challenges of the corresponding practice paths, we aim to provide practical references for the innovative and connotative development of psychological parenting in colleges and universities.

Keywords

Artificial Intelligence; Psychological Parenting; Practical Paths

1. Introduction

The Modernization of China's Education 2035 issued by the State Council clearly states that "the implementation of AI-enabled teacher team building action, promote teachers to change their role and position". Promoting AI-enabled education and promoting the innovative and connotative development of ideological and political education in colleges and universities has become a topic of national focus. Psychological education, as one of the "ten major education systems" of the quality improvement project of ideological and political work in colleges and universities, is an important part of ideological and political education in colleges and universities in the new era, and is of vital significance to the cultivation of innovative and high-quality talents of all-around development; its connotation embodies the or-

ganic unity of fitness for purpose and fitness for methodology, and it achieves the goal of educating people by means of psychological health education. Mental health education to achieve the goal of educating people, the result of educating people is to cultivate new people of the times with good psychological quality. In the new era of digitalization with rapid development of science and technology, the rapid development and application of artificial intelligence technology has brought new opportunities and challenges for psychological education in colleges and universities. How to make full use of the advantages of artificial intelligence and innovate the practice path of psychological parenting has become an important issue for colleges and universities to enhance the effectiveness of moral education.

With the rapid development of artificial intelligence technology, the scope of its application in the field of empowering education has become increasingly broad. For example, the construction of AI-enabled smart campus and smart classroom is emerging day by day, which can provide students and teachers with personalized information push, intelligent early warning and other services through the analysis and calculation of big data. The traditional psychological parenting model mainly relies on psychological teachers and counselors to discover, report, intervene and give feedback, which is not enough when facing the huge number of students in colleges and universities and the increasing diversity, complexity and hiddenness of psychological problems. Therefore, exploring the practical path of artificial intelligence-enabled psychological parenting in colleges and universities is not only an urgent need to improve the effectiveness of psychological parenting, but also an important way to comply with and promote the modernization of education. The introduction of artificial intelligence technology can realize the personalization, precision and automation of monitoring and warning, status follow-up, resource pushing, auxiliary consulting, analysis and feedback of mental health education by means of big data analysis, intelligent algorithms and human-computer interaction, which is expected to overcome the limitations of the traditional practice of psychological parenting, and provide students with more timely and effective psychological support and services. To sum up, it is very important and necessary to actively explore the innovative application mode of AI in college mental health education to build a more intelligent and efficient psychological parenting system. This study aims to summarize and put forward the innovative practice paths of AI-enabled psychological parenting in colleges and universities based on the status quo and pain points of psychological parenting in colleges and universities in the new era, as well as to analyze the development prospects, application advantages, and risk challenges of the corresponding practice paths. It also analyzes the development prospects, application advantages and risk challenges of the corresponding practice paths, so as to provide new application perspectives and methodological support for the improvement of the quality and efficiency of psychological parenting in colleges and universities.

2. The Status Quo and Pain Points of Psychological Parenting Practice in Colleges and Universities in the New Era

2.1 The mechanism of collaborative education among families, schools, communities and doctors needs to be improved

Families, schools, society and hospitals all bear the important responsibility of escorting the mental health of college students. Although the importance of collaborative education has been recognized, the linkage effect of all parties is insufficient in practice, and the lack of an effective communication mechanism and resource sharing platform easily affects the efficiency and quality of collaborative education. The assessment and feedback of all parties on the psychological state of students in colleges and universities cannot be synchronized in time, and the timeliness of information exchange needs to be enhanced. In addition, under the influence of traditional social concepts, some parents choose to conceal their students' past psychological conditions when they learn about them from the university because they are worried that the diagnosis of mental illness will affect their evaluation during the university years and their further study or employment after graduation, which increases the difficulty for universities to detect students' psychological problems in a timely manner, and delays the time for students to be referred to the professional psychological treatment hospitals. On the other hand, the traditional psychological assessment methods widely used in universities often rely on questionnaires and interviews, which are subjective and time-consuming, and the time from completing the questionnaires and interviews to discovering and feeding back the psychological problems to the parents or professional psychiatric hospitals is also long. Artificial intelligence can analyze students' online speech and social media data through big data analysis and machine learning algorithms, such as the use of natural language processing and other technologies, to capture their emotional changes and psychological tendencies, so as to conduct a more objective, accurate and real-time assessment of the psychological state of the students, to quickly screen out the students who may have psychological problems, and to provide timely warnings to all parties to smooth the channel of collaborative parenting.

2.2 Carriers and contents of psychological counseling to be enriched

The carrier and content of psychological counseling are directly related to the effectiveness of psychological education, and its richness and practical difficulty will directly affect the degree of acceptance of college students. At present, psychological education in colleges and universities is mainly implemented by counselors and mental health teachers, with psychological classroom - psychological lectures - group psychological counseling - individual counseling - psychological activities as the main practice pathway of psychological education model. The selection and presentation of the carriers and contents of psychological education are highly de-

pendent on the mastery and application of knowledge and methodology of mental health education by the implementation subjects, i.e. counselors, mental health teachers and some students' peers, so there are problems such as insufficient attraction and individual relevance of traditional mental health education, and differences in the mastery and application proficiency of the implementation subjects of mental health education. There are problems such as differences in the proficiency of the implementation subjects of mental education in the mastery and application of knowledge of mental health education. In response to these problems, the existing artificial intelligence technology can provide customized psychological education content according to the individual differences and psychological characteristics of students, through the analysis of students' learning behaviors, social patterns and other data, combined with big data and cloud computing and other technologies, and accurately push personalized psychological adjustment methods and resources. At the same time, according to the different degrees of mastery of mental health education knowledge and methods of the main body of the implementation of psychological education, we can accurately match the appropriate training content to help them improve their knowledge reserves and methodological skills of psychological education, so that they can better improve the effectiveness of psychological education.

2.3 Timeliness and accuracy of psychological early warning needs to be enhanced

The timeliness and accuracy of psychological monitoring and early warning of students in higher education is crucial for early detection and timely intervention of psychological problems among students. Poor timeliness of psychological monitoring and early warning may lead to delayed detection and intervention of psychological crisis events, increasing the potential risks for students and their families. The current traditional psychological monitoring and early warning mechanism is mainly based on psychological scale census-interview-daily behavioral observation as the main pathway, which is subjective, time-consuming to analyze the results of the census, and unable to monitor and feedback in real time. Secondly, the psychological assessment methods mainly based on psychological scales are usually unified in practice and administered at certain fixed time nodes, so it is easier to be affected by the measurement time nodes, the real-time assessment is not high, and it is difficult to dynamically track the psychological changes, etc. The timeliness of the assessment and early warning needs to be strengthened. In addition, traditional psychological monitoring and early warning methods are prone to problems such as unidirectionalization of dimensions, subjectivization of processes, and static results, and their accuracy is easily affected by factors such as the applicability of the assessment tools, the scientificity of the assessment methods, and the professionalism of the assessors. Therefore, through new technologies such as artificial intelligence,

it is expected to improve the timeliness and accuracy of the existing psychological monitoring and early warning mechanisms, so as to reduce the emergence of psychological crisis events.

3. The Innovative Practice of Artificial Intelligence-enabled Psychological Education in Colleges and Universities

3.1 Building an intelligent platform for collaborative psychological education

In the new era of education modernization, the empowerment of artificial intelligence can greatly improve the efficiency and quality of psychological collaborative education in colleges and universities. The intelligent multimodal psychological collaborative education platform constructed by artificial intelligence technology can integrate multiple sources of data including students' academic performance, social activities, network behavior, etc. through natural language processing, machine learning and other technologies, use deep learning algorithms to establish a more comprehensive and accurate psychological assessment model, and regularly update and optimize the model to adapt to the changes in the psychological state of students in colleges and universities, thus realize multi-dimensional assessment and real-time monitoring of students' psychological state. This practice path can go beyond the traditional single questionnaire survey or interview, through the analysis of students' voice, text, image and other modal data, to provide educators with a more comprehensive and accurate analysis of students' mental health status, and can be synchronized through the intelligent multimodal psychological collaborative parenting platform to push and share the relevant data to the teachers' side, the parents' side and the mental health center, and the endpoints can be synchronized to share the relevant data to the platform, such as the teachers' side, the parents' side and the mental health center, so that each endpoint can synchronize and share the relevant data to the platform. Each terminal can also synchronize and share relevant data to the platform, such as teachers uploading students' classroom attendance data, logistics departments uploading students' sleeping conditions, psychological centers uploading students' counseling conditions, counselors updating students' behavioral observations and interviews, etc., thus reducing the fragmentation of data in each department. By integrating the data from each terminal through artificial intelligence technology, a more comprehensive psychological portrait can be formed, and timely updated and fed back to the main body of education, so as to better realize the psychological education of all the staff in a coordinated manner.

3.2 Provision of personalized online counselling services

The current offline psychological courses, psychological counseling, psychological lectures, psychological group counseling and other psychological parenting pathways have been more mature and perfect, but inevitably easily limited by time,

space, artificial limitations, unable to provide targeted psychological services in real time around the clock. Therefore, the use of artificial intelligence technology to build a personalized online psychological counseling platform is of great significance for enriching and perfecting the existing psychological parenting practice path, and constructing a new modality of all-site, all-weather psychological parenting. Using the recommendation algorithm of artificial intelligence, students can be provided with personalized psychological counseling courses, articles, videos and other resources to be pushed. Based on students' personal information, psychological assessment results and past counseling records, the powerful arithmetic of AI combined with big data, cloud computing and other technologies can tailor-made personalized psychological counseling programs and quickly match suitable psychological counseling resources for students. In addition, AI technology can introduce virtual counselors by way of intelligent chatbots, which can provide instant emotional relief and preliminary psychological guidance through natural language processing and sentiment analysis technologies, and provide psychological support to students around the clock.

3.3 Improvement of real-time psychological monitoring and early warning mechanisms

The current psychological monitoring and early warning mechanism in colleges and universities is mainly a four-level early warning system with dormitories, classes, colleges and schools as the main body, and based on which a bottom-up and top-down two-way rapid feedback and crisis intervention mechanism is constructed. The operation of this system and mechanism is mainly based on the behavior and events that have already occurred and been noticed to react, which is prone to lagging and passivity, while the current situation of psychological problems and psychological crises of students in colleges and universities presents a hidden, sudden and complex development, which requires the psychological monitoring and early warning system to be able to integrate the behavioral performance of students more comprehensively and in real time, and to make more forward-looking early warning feedback from the passive treatment. This requires a psychological monitoring and early warning system that can integrate students' behaviors in a more comprehensive and real-time manner, make more forward-looking early warning feedback, and change from passively dealing with existing psychological crises to anticipating and resolving potential psychological problems in advance. The psychological monitoring and early warning mechanism empowered by AI technology is expected to analyze students' learning behaviors, social interactions and emotional expressions to identify potential mental health risks for early intervention or referral to professional psychological treatment institutions. In addition, by analyzing students' social network behaviors through intelligent algorithms, it can assist in identifying the early tendency of depression or anxiety, and provide timely warning

and feedback to relevant parenting bodies, such as counselors, psychological counseling teachers and parents.

4. The Practical Prospects of Artificial Intelligence-enabled Psychological Education in Colleges and Universities

4.1 Integration of multimodal data

The future application of AI technology in the psychological parenting arena will not only rely on a single type of data, but will integrate data from multiple modalities, such as physiological data, behavioral data, linguistic data, expression data, etc., so as to provide a more comprehensive and in-depth understanding of the psychological state of students. On the basis of the current natural language analysis of mainly chat text and speech, facial expression recognition and voice tone analysis will be added, as well as the combination of physiological signal indicators such as electroencephalograms and galvanic skin with behavioral data when conditions permit, so as to analyze the students' emotional changes and psychological state more accurately.

4.2 Integration with emerging technologies

With the development of emerging technologies such as 5G, Internet of Things, and blockchain, the practical path of artificial intelligence-enabled psychological education in colleges and universities will be broader and deeper. Artificial intelligence combined with 5G technology and even the future 6G technology will achieve faster and more stable data transmission, and real-time psychological monitoring and personalized psychological counseling for different geographical areas and a large number of student groups will become possible. The combination of AI technology with IoT technology will allow for the connection of more wearable smart devices, which will be able to collect and analyze richer physiological data such as skin electricity, respiratory frequency, heart rate, etc., making the identification of potential psychological problems faster and more accurate. In addition, the combination of AI technology and blockchain technology can better secure data storage and reduce technical and ethical risks such as data leakage.

4.3 Enhanced interdisciplinary cooperation

In order to better utilize the practical efficacy of AI in psychological parenting, multidisciplinary cooperation among psychology, computer science, pedagogy and other disciplines will become increasingly close. Experts related to psychology provide professional developmental psychological counseling, psychological problem identification and intervention, and other aspects of research theory and practical guidance, experts in computer science develop more advanced technologies and algorithms based on user needs generated in practice, and experts related to pedagogy

study how to better apply advanced algorithms and technologies to educational scenarios in a way that conforms to the laws of education, so as to jointly promote the new situation of the The innovative development of psychological parenting work in colleges and universities.

5. Application Advantages of Artificial Intelligence Enabling Psychological Parenting in Colleges and Universities

5.1 To break down information barriers , share and build a collaborative education platform

Artificial intelligence technology, combined with big data analysis and machine learning algorithms, can integrate the behavioral data of students from various subjects of collaborative education in real time, so that the data from various terminals, such as teaching, logistics, security, psychological centers, parents, etc., are no longer isolated records, and a more objective and accurate assessment of the students' psychological status can be accomplished through the sharing and integration of multi-source information, and the information needed by various subjects of education can be fed back in a timely manner so that multiple subjects of education, such as families, schools, social workers and doctors, can better play the role of collaborative psychological education. The information will be fed back in time, so that multiple educators, such as parents, schools, social workers and doctors, can better fulfill the role of collaborative psychological education. For example, when students are found to have a tendency of psychological crisis through the integration of data from multiple departments, such as abnormal language analysis of social media, psychological counseling records, abnormal class attendance, and failure to return to bed on time, they can be fed back to various departments through the platform of collaborative education in order to better handle the situation collaboratively, and the security department can immediately pay more attention to the behavioral trajectory of the corresponding students, and the counselor and psychological center can intervene in time to find the students and talk to them. The counselor and psychological center will intervene in time to find the student for conversation and psychological counseling, and the parents can also learn about the behavior of the student in school in time so as to cooperate with the school to carry out psychological parenting work.

5.2 Precise portrait pushing, enriching and perfecting the existing carriers of education

In addition to the existing psychological nurturing carriers and contents, such as offline psychological courses, consultations, lectures, group counseling, etc., AI can enrich and improve the existing psychological nurturing carriers and contents by integrating and analyzing the data of students' learning behaviors, social patterns, etc., and providing real-time customized psychological counseling programs and accu-

rately delivering personalized psychological adjustment methods and resources for students. In addition, the natural language processing and emotion analysis technologies of artificial intelligence can help build virtual psychological chatbots, which can respond to students' psychological confusions and relieve their emotions and pressure 24 hours a day, and provide timely feedback to counselors, psychological teachers and other educators based on the information captured in the chat content, thus breaking the geographical and time constraints, and building a borderless psychological education system that combines online and offline, and complements the virtual and real ones. This will break the geographical and time limitations and build a borderless psychological education system combining online and offline, virtual and real complementing each other.

5.3 Real-time psychological monitoring to prevent and resolve potential psychological crises

Through artificial intelligence's emotion recognition algorithm and behavioral analysis model, it conducts comprehensive analysis of students' academic performance, social adaptation, medical records, network behavior and social media activities in real time, responds quickly when students show psychological stress or emotional abnormalities, and provides timely feedback of early warning signals to each nurturing body. In order to provide students with immediate psychological support, we strive for valuable intervention time for professional counselors, so that we can better turn passive intervention into active prevention, and resolve potential psychological crises in a timely manner at the front end.

6. Risk Challenges of Artificial Intelligence Enabling Psychological Parenting in Colleges and Universities

6.1 Data security and privacy protection in practice

The application of AI technology in the educational arena requires analysis and prediction based on a large amount of students' behavioral data, chat information, social media information, mental health information, medical consultation records, and other data, so the issue of data security and privacy protection is the primary risk and challenge in the practical application of this technology. Sensitive personal information, if inadvertently leaked or used inappropriately, may lead to students suffering from social discrimination, cyber violence, and other psychological harm. Therefore, in the practical application of AI-enabled psychological education in colleges and universities, all relevant departments need to establish a strict data protection mechanism to ensure that the collection, storage, and use of information comply with relevant laws and regulations, and to ensure the safety of students' personal privacy data.

6.2 Soundness of relevant regulations and ethical balance

As the application of AI in psychological parenting becomes more and more widespread, the improvement of relevant laws and regulations and the balance of morality and ethics will receive more attention. How to ensure the legal compliance of the collection and use of data related to mental health, how to avoid algorithmic bias and technological bias in the formation of erroneous psychological assessment of students, how to protect the information security and personal privacy of students in the process of sharing and building cloud data, how to ensure that real-time data collection will not infringe on the personal privacy of students and their sense of security of information, and how to balance the convenience of the technology with the boundary of social ethics, etc. are all urgent issues that require the improvement of relevant laws and regulations and the balance of social ethics to prevent and prevent the use of AI. All of these issues urgently require the improvement of relevant laws and regulations and the balance of social ethics to prevent and resolve them, so as to standardize the practice and application of AI in psychological parenting in colleges and universities.

6.3 Technological dependence and emotional substitution avoidance

As the path of psychological parenting practice empowered by AI continues to develop in the direction of automation and intelligence, over-reliance on technology and neglect of humanistic care should be avoided. Psychological parenting not only needs efficient, precise, personalized, intelligent and innovative technical means to adapt to the new requirements of parenting in the new era, but also needs warm humanistic care and real emotional connection, so purely relying on machine algorithms and data analysis may not be able to satisfy the diverse needs of colleges and universities in the practice of psychological parenting. Therefore, the main body of education should balance the existing psychological education model and the intelligent path empowered by AI, so that the two can complement each other's strengths and harmonize, rather than relying on or rejecting a single model and path, so as to ensure that psychological education in colleges and universities has the convenience of science and technology as well as humanistic temperature.

7. Conclusion

In summary, artificial intelligence provides an innovative practical path for the innovative development and quality enhancement of psychological parenting in colleges and universities. Through the sharing and construction of intelligent collaborative parenting platform, accurate imaging of all-weather psychological counseling services, real-time and efficient multi-modal psychological monitoring means, it can better strengthen the full coordination and data synchronization of home, school, social and medical, improve the personalized psychological resource push and online and offline combination of all-weather psychological accompaniment, and improve the all-around psychological monitoring and warning mechanism from

passive intervention to prospective prevention, so that the existing psychological parenting mechanism is strengthened and perfected in a multi-dimensional way. Strengthen and improve the existing psychological education mechanism. With the continuous development of science and technology and the advancement of education modernization, there is a broad prospect for the in-depth empowerment of AI technology in the practice of psychological education in colleges and universities in the future, and the integration of more expression recognition, physiological data, and cognitive neurological data with multimodal data on the basis of the existing technology will further enhance the accuracy of the analysis and identification of the psychological state, and the fusion with the emerging technologies such as 5G, IoT, and blockchain will enhance the breadth of the application and improve the accuracy of data. Enhance the breadth of application and the credibility of data, and interdisciplinary cooperation in the fields of psychology, computer science, and education will further broaden the application scenarios of new technology-enabled education. However, in addition to the many advantages and broad prospects of AI-enabled psychological education in colleges and universities, the main body of education should also pay attention to and solve the many risks and challenges that exist on the road of innovation, such as the security of data and privacy protection, the soundness of laws and regulations and the balance of ethics, the balance of humanities and technology complement each other, and other issues, which need to be continuously mapped out and perfected solutions in practice. Therefore, in order to make the practical application of AI-enabled psychological education in colleges and universities build on its strengths and avoid its weaknesses, it is necessary to further strengthen interdisciplinary cooperation and communication in the future, to jointly overcome technical, ethical and regulatory challenges, and to formulate scientific and reasonable application norms and ethical guidelines; to further increase the investment in the relevant infrastructure, to provide strong support for the application of AI-enabled education; to pay attention to training for teachers and psychological training for teachers and psychologists to enhance their theoretical reserves and digital literacy, so that they can better integrate emerging technologies and innovative thinking into their daily work of psychological education. In the new era of vigorous development of new quality productivity, AI-enabled psychological education in colleges and universities is an innovative initiative to adapt to the modernization of education, and can contribute to the better implementation of the fundamental task of cultivating moral integrity in colleges and universities and fostering innovative talents adapted to the digital era.

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