# AI-Driven Mental Health Education in Primary and Secondary Schools:Exploration,Challenges and Future Prospects

Lu Yanwei

Baoji Institute of Education, Shaanxi Province，Baoji City Shaanxi Province， 721000；

**Abstract:**The emergence of AI is reconstructing the model of mental health education in primary and secondary schools.At present,it has shown great value in psychological screening,crisis early warning and self-help intervention.However,there are still prominent problems in practice,such as the lack of ethical norms,superficial integration of technology and mental health education,faults in professional support systems,and poor convergence between educational stages.To give play to the advantages of AI technology in mental health education,we must adhere to student-oriented education and ethical bottom lines,build an implementation path featuring technology empowerment,humanistic care,home-school-community collaboration and stage integration,and truly create a new warm,implementable and effective ecosystem of mental health education in primary and secondary schools,so as to provide a solid guarantee for the physical and mental health development of primary and secondary school students.

**Keywords:**AI;mental health education in primary and secondary schools;challenges;exploration paths

**DOI：**10.69979/3041-0843.26.02.031

In recent years,psychological problems among primary and secondary school students have become increasingly prominent,showing characteristics of younger onset,complexity and concealment.Traditional mental health education is faced with a series of problems such as insufficient teachers,limited coverage,delayed identification and fragmented intervention.The Generative AI Usage Guide for Primary and Secondary Schools(2025 Edition) clearly lists mental health as a key application area of AI+education,providing a policy basis for technology-enabled mental health education.Artificial intelligence has significant advantages in improving screening efficiency,expanding service coverage and optimizing home-school collaboration,but it is also accompanied by new risks such as data security,algorithmic bias and technology dependence.How to balance technological innovation and the essence of education in the digital wave,solve practical problems of"difficult identification,slow follow-up and weak collaboration",and construct a scientific,standardized and humanistic AI-enabled mental health education model has become an important issue urgently to be solved in the field of basic education in the new era.

## 1 Practical Challenges of Mental Health Education in Primary and Secondary Schools from the AI Perspective

### 1.1 Ethical Risks and Security Hazards in Technology Application

The delivery of mental health services through artificial intelligence relies on sensitive student information such as psychological assessments,daily behaviors,and facial emotions.Security vulnerabilities exist in the full life cycle management of such data.Some AI psychological platforms adopted by schools have not obtained network security certifications;relevant information is not fully disclosed during data collection,and some even collect private information through default authorization.In campus APP violation cases reported in many regions in 2024,more than 30%involved mental health applications,posing considerable risks of data leakage and abuse.Algorithmic models lack unified standards for identifying psychological risks,which can easily lead to negative labeling of introverted and sensitive students,misleading teachers’ interventions and harming students’ mental health.Inadequate ethical norms and supervision mechanisms have further exacerbated risks to privacy and educational equity,constraining the development of AI-enabled mental health education.

### 1.2 Superficial and Formalistic Integration of Technology and Mental Health Practice

Most schools implementing AI-driven mental health education simply stack hardware devices and conduct only one-time assessments,without genuine integration into routine psychological education.Taking practices in some primary and secondary schools in Baise City as an example,nearly 60%of schools use AI assessment systems only during Mental Health Month,leaving the equipment largely idle on a daily basis.Facilities such as smart psychological classrooms are mostly displayed for inspections,lacking regular operation and follow-up intervention,resulting in resource waste.The positioning of AI applications is skewed:excessive focus is placed on remediation for at-risk students,while developmental and preventive education for all students is neglected,seriously violating modern mental health education principles.In addition,AI technology remains fragmented from curriculum teaching,class management,home-school communication,and other fields,making interdisciplinary integration difficult to achieve.Furthermore,a significant gap exists in technological resource allocation between urban and rural schools.Rural schools lack lightweight AI mental health resources,further widening regional imbalances in mental health education development.

### 1.3 Inadequate Professional Support and Inefficient Collaborative Mechanisms

Empowering mental health education with artificial intelligence requires interdisciplinary talents and a collaborative system.However,primary and secondary schools face a shortage of professional resources.Full-time psychological teachers are understaffed with uneven professional competence.According to a 2025 survey,the staffing rate of full-time psychological teachers in county-level primary

and secondary schools is less than 35%,and fewer than 15%are proficient in operating AI-based mental health education systems,which restricts the implementation and advancement of mental health education.Head teachers lack professional mental health education competence and bear heavy daily teaching workloads,making it difficult for them to identify students' mental health issues with AI tools.Home-school collaboration is hindered in practice:some parents resist AI psychological monitoring due to concerns over privacy breaches and stigmatization,resulting in low communication efficiency.The school-family-society collaborative network is incomplete,and there is a lack of digital linkage mechanisms between schools,medical institutions,and community mental health service centers,causing great difficulties in the referral of complex psychological problems.

# 2 Implementation Principles and Paths of Mental Health Education in Primary and Secondary Schools from the AI Perspective

## 2.1 Upholding the Orientation of Education and Standardizing the Ethics of Technology Application

### 2.1.1 Consolidating the Bottom Line of Data Security and Ethical Systems

The application of artificial intelligence must prioritize students' privacy protection and physical and mental health.A comprehensive data security management system covering the whole process shall be established in strict accordance with the Generative AI Usage Guide for Primary and Secondary Schools(2025 Edition).When selecting AI tools for mental health education,schools must carefully verify whether they possess national network security qualifications and educational data compliance certifications,and shall not adopt insecure commercial systems.The data collection mechanism should be improved to fully inform parents and students of the scope and purpose of data collection.Meanwhile,a system for algorithm review and manual rechecking shall be established to ensure that AI assessment results are only used as references and can never replace teachers' professional judgment.Competent authorities should conduct regular supervision and seriously hold violators accountable,so as to build a safe and orderly AI-enabled mental health education environment.

### 2.1.2 Establishing the Core Concept of Technology as Assistance Rather Than Substitution

The core of mental health education lies in emotional connection and humanistic care.Artificial intelligence is only an auxiliary tool and cannot replace genuine interaction and communication between teachers and students.Therefore,schools must abandon a technology-centered and overly utilitarian mindset,and promote AI application under the guidance of "technology improves efficiency,teachers deliver care,and students benefit from it".For common psychological problems among students,face-to-face communication should be fully adopted,with AI self-help intervention as a supplementary means,so as to avoid emotional alienation caused by students' over-reliance on virtual interaction.In daily educational activities,students should be actively guided to correctly understand AI,further improve their ability of independent emotional regulation and real-life social skills,so as to ensure that technology effectively serves mental health education.

### 2.1.3 Strengthen Risk Prevention,Control and Dynamic Supervision and Evaluation

Establish a full-process risk early warning and emergency response mechanism for AI-enabled mental health education,and conduct sustained and regular monitoring of functions such as intelligent assessment and emotion recognition.Taking issues such as technology dependence as an example,formulate norms for students' use of AI tools,and control the duration and applicable scenarios of use.Draw on relevant experience from Beijing,Shanghai and other regions,set up school-level ethical review teams,regularly evaluate the impact of AI applications,and adjust corresponding strategies based on evaluation results.Carry out special training on data security for teachers,parents and students to improve their abilities in privacy protection and risk identification.Establish a closed-loop mechanism for problem feedback and rectification,enabling rapid response to system vulnerabilities and other issues,so as to balance innovation and prevention and ensure the smooth and orderly progress of AI-enabled mental health education.

## 2.2 Construct an Implementation System for the Deep Integration of Technology and Mental Health Education

### 2.2.1 Promote the Deep Integration of AI and Mental Health Curriculum Teaching

In accordance with the Compulsory Education Curriculum Plan and Curriculum Standards(2022 Edition),introduce AI tools into mental health education and interdisciplinary teaching.Relying on AI resource platforms,develop age-appropriate content such as emotion management picture books,mini-games and psychological micro-courses that suit the characteristics of each school stage.Drawing on the practice of AI mental health education cases in primary and secondary schools in Guangdong Province,design progressive content by school stage covering self-cognition,interpersonal communication and other themes.Embed AI emotion monitoring modules into courses such as Morality and Rule of Law,Physical Education and Health to realize the regular infiltration of mental health education.Optimize teaching based on student needs derived from AI data analysis.In addition,increase resource investment in rural and weak schools,and provide lightweight AI mental health education resource packages to narrow the urban-rural gap and promote the balanced distribution of resources.

### 2.2.2 Build a Full-Cycle Early Warning and Intervention Closed Loop Based on AI

Use artificial intelligence to build a complete "screening-monitoring-early warning-intervention-tracking" chain of mental health education,solving the problems of identification and follow-up in the traditional model.Conduct psychological censuses every semester through intelligent assessment,and draw on experience from Hangzhou,Suzhou and other cities to establish electronic psychological files for students,realizing dynamic updates and resource sharing.Carry out analysis through modules such as facial emotion recognition,classroom behavior and card-swiping data,implement regular monitoring of high-risk students,and achieve automatic crisis early warning and graded

notification.The AI system will push self-regulation plans according to different risk levels and notify relevant staff to carry out collaborative interventions.

2.2.3 Optimize the Home-School-Community Collaborative Education Model with AI Tools

Take the AI platform as a link to break through information barriers between home,school and community,and build a digital collaborative education network.Push personalized family education guidance,student psychological briefings,parent-child communication skills and other information to parents through intelligent terminals.Drawing on experience accumulated in Nanning,Baise and other regions,launch AI online counseling services and anonymous feedback channels to alleviate parents' concerns in communication.Establish a collaborative intervention ledger to update students' status in real time,ensure consistent educational strategies and reduce potential divergences.Integrate social resources,connect data interfaces between schools,medical institutions,communities and public welfare organizations,so as to realize rapid referral of complex psychological problems and finally form a comprehensive psychological support network.

## 2.3 Improve Professional Support and Integrated Development Support Mechanisms

2.3.1 Strengthen the Construction of Compound Mental Health Education Teachers

A hierarchical and categorized training system will be established to improve teachers' composite capabilities in both technology and mental health education.For full-time mental health teachers,special training on AI data analysis and crisis intervention will be offered,with at least two digital mental health education workshops arranged annually to enhance their practical operational skills.For head teachers,training will focus on basic psychological knowledge and simple AI operation,enabling them to identify psychological problems and use the early warning platform.Meanwhile,a joint research mechanism for technology teachers and mental health teachers will be set up to optimize platform functions.By dynamically increasing staffing quotas for full-time mental health teachers,expanding channels for introducing high-level professionals,and promoting inter-school faculty and resource sharing across regions,the team of full-time mental health teachers will be continuously strengthened,staffing structure and professional allocation optimized,and the shortage of professional personnel in grassroots schools effectively alleviated.This will consolidate the talent foundation for AI-driven mental health education,improve teachers' digital application and professional intervention abilities,and provide solid talent and organizational support for the effective implementation and regular operation of the AI mental health education system.

2.3.2 Promote the Integrated Connection of Mental Health Education in Primary,Secondary and Tertiary Schools

Use artificial intelligence to break through stage barriers and build a progressive and continuous mental health education system.In accordance with the relevant requirements for the integration of mental health education in primary and secondary schools,unify the format of psychological files and align assessment and intervention standards,so as to achieve seamless connection of psychological data across school stages.Design gradient AI mental health education courses and intervention programs based on students' physical and mental characteristics to avoid content repetition or gaps.Build a cross-stage teaching and research platform for teachers to share cases,strategies and resources,improving the consistency of intervention.This approach moves the threshold of psychological services forward,focuses on key education at each stage,minimizes the occurrence of psychological problems at the source,and changes the situation where intervention in higher grades often lags behind reality.

2.3.3 Establish a Scientific Evaluation and Continuous Optimization Development Mechanism

Construct a comprehensive evaluation system for AI-supported mental health education centered on actual educational effectiveness,correcting the tendency of valuing technology over education.The system should cover students' mental health status,emotional regulation ability,interpersonal adaptability,incidence rate of crisis incidents,and satisfaction from both parents and schools.Third-party institutions should be introduced to conduct annual evaluations,and objective reports should be generated based on AI data analysis to provide a basis for subsequent improvements.A feedback and iteration mechanism shall be established to optimize platform functions,curriculum design and implementation paths,so as to upgrade the AI-based mental health education model.

Meanwhile,the effectiveness of AI-enabled mental health education shall be fully integrated into the comprehensive evaluation of school-running quality,with clear evaluation weights and assessment standards as important indicators for measuring educational quality and school performance.A scientific and reasonable incentive mechanism shall be set up to commend and reward outstanding schools and teachers in AI mental health education practices,set advanced models and play an exemplary role.

Guided by evaluation,teachers are encouraged to abandon the one-sided view of technology supremacy,focus on the essence of education,stay committed to fostering virtue and morality,continuously optimize AI application methods and improve professional competence.This will help AI-enabled mental health education in primary and secondary schools get rid of formalism,advance steadily toward standardized,scientific and long-term development,give full play to the value of technology empowerment,and build a solid guarantee for the physical and mental healthy growth of students.

# 3 Conclusion

AI has brought technical support and new development opportunities for mental health education in primary and secondary schools.Only through scientific and reasonable application,adhering to the original aspiration of education and abiding by ethical bottom lines can its role be fully exerted.At present,AI-enabled mental health education faces problems such as security risks and insufficient integration,which need to be regulated and improved in practice.Only by promoting the deep integration of technology and mental health education,improving

home-school-community collaboration and stage integration mechanisms,and strengthening professional support and risk prevention and control can we achieve the goal of accurate,warm and sustainable mental health education.In the future,we should further deepen practice,improve AI application models,improve the quality of mental health education in primary and secondary schools,and strengthen the psychological defense line of young people.

## References

[1]Han Yuhong,Chai Chunze,Li Bo.Practical Exploration of AI-Enabled Employment Guidance in College Counselors' Studios[J].Beijing Education(Moral Education),2025(11):80-83.
[2]Luo Yuxiang.Strategies for AI-Driven Mental Health Education in Primary and Secondary Schools[J].Guangdong Education(Comprehensive Edition),2025(10):101-102.
[3]Wang Limei,Li Zhong,Gu Tian.Technical Foundation and Application Map of AI-Enabled Mental Health Education[J].Primary and Secondary School Information Technology Education,2025(07):38-40.
[4]Han Qing,Zang Peng,Chang Sheng.AI Empowering Mental Health Education in Primary and Secondary Schools:Rational Data and Emotional Warmth[J].Primary and Secondary School Information Technology Education,2025(07):29-30.
[5]Fan Shengwu,Fang Jiaqi.A Systematic Strategy Study on AI-Enabled Mental Health Education in Primary Schools[J].Primary and Secondary School Information Technology Education,2025(07):47-48.
[6]Song Bingbing,Dong Chen.Three-Dimensional Drive and Collaborative Education to Promote the High-Quality Development of Municipal Mental Health Education in Primary and Secondary Schools[J].Shandong Education,2024(Z1):7-9.