

Design and Implementation of a Mental Health Service Model for College Students Based on the “Boundary-Crossing Wanderer” Project

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Abstract— *The mental health needs of college students are increasingly characterized by their everyday and diverse nature, highlighting the need for higher education institutions to strengthen support for students' emotional well-being, stress management, and ongoing personal development. Factors such as concerns about seeking psychological counseling, the relatively formal nature of existing services, and insufficient access to everyday support may discourage some students from actively seeking help when experiencing emotional distress. Meanwhile, existing mental health services tend to focus primarily on psychological assessment, counseling, and crisis intervention, with limited continuity among online resources, offline activities, and feedback on students' personal development. To address these issues, the “Boundary-Crossing Wanderer” project proposes a four-stage mental health support model consisting of emotion recognition, emotion expression, emotion regulation, and emotion feedback. The model integrates functions such as mood recording, anonymous sharing, virtual companionship, psychological exercises, and personal growth feedback into a continuous support process. By combining an online digital platform with offline immersive experiential activities, the project develops a comprehensive mental health support model for college students that integrates everyday emotional support, interactive engagement, and continuous support throughout the process of personal development.*



Keywords— *Digital mental health, Emotion regulation, Help-seeking behavior, Online-offline integration, Psychological stress, Social support*

I. INTRODUCTION

With changes in the social environment and the development of higher education, college students' mental health has become an important issue requiring attention in the process of talent development in higher education institutions. As an important component of promoting

students' all-round development, mental health education in higher education institutions plays a vital role in enhancing students' psychological resilience and promoting their healthy development. However, current mental health services in higher education institutions still primarily take the form of psychological assessment,

counseling, and crisis intervention, with services largely focused on students who are already experiencing significant psychological distress. There remains room for further improvement in areas such as daily emotional management, stress regulation, and continuous mental health support.

Existing research has actively explored the development of mental health education systems in higher education institutions, psychological crisis intervention mechanisms, and the application of digital mental health services, providing important references for improving the mental health service system for college students. However, from a practical perspective, existing service models still face challenges such as insufficient willingness among students to seek help proactively, limited service reach, and inadequate integration of online and offline resources, making it difficult to fully meet college students’ diverse and continuous needs for mental health support. Therefore, how to promote a shift in mental health services in higher education institutions from “problem intervention” to “continuous support” and establish a more proactive, accessible, and sustainable service model has become an important issue in current practices of mental health education in higher education institutions.

Using the “Boundary-Crossing Wanderer” college student mental health service project as a practical platform, this study analyzes college students’ needs for mental health services and existing problems through a questionnaire survey and explores a continuous mental health support service model. Centered on the stages of emotion recognition, emotion expression, emotion regulation, and emotion feedback, the model establishes a continuous support system covering attention to students’ daily mental states, emotional guidance, and personal growth support, thereby enhancing the proactiveness, continuity, and accessibility of mental health services for college students.

II. GROWING DEMAND FOR MENTAL HEALTH SUPPORT AMONG COLLEGE STUDENTS AND INADEQUATE SERVICE PROVISION

2.1 Psychological Stress Among College Students Is

Becoming Increasingly Common

In recent years, with the combined effects of academic competition, employment pressure, and interpersonal relationships, psychological stress among college students has become increasingly common. To understand college students’ needs for mental health services, the project conducted a questionnaire survey among college students and collected 208 valid responses. The survey results showed that more than 80% of respondents had experienced psychological stress to varying degrees, indicating that psychological stress has become a common phenomenon in college students’ daily academic and personal lives.

Further analysis revealed that mental health problems among college students do not generally emerge within a short period but develop gradually through the accumulation of long-term stress and emotional fluctuations. The process ranges from negative emotions such as anxiety and feelings of loss to behavioral manifestations such as decreased sleep quality and reduced learning efficiency, and eventually to the emergence of more noticeable mental health problems. This process is characterized by a certain degree of continuity and subtlety.

2.2 Low Utilization of Traditional Mental Health Services

Although most college students experience psychological stress to varying degrees, the proportion of students who seek professional psychological help proactively remains relatively low. Among the valid responses collected in the survey, only 28% of respondents had used university psychological counseling services, while 18% were unaware of whether such services were available at their university. There remains a considerable gap between the utilization of mental health services and the actual needs of college students. The survey also found that when experiencing emotional distress, many students tend to cope with it on their own or confide in friends, rather than proactively seeking help from university counseling centers. This indicates that there is still considerable room

for improvement in students’ acceptance and utilization of mental health services.

Further analysis revealed that the low utilization of traditional mental health services is mainly related to students’ perceptions and service provision. At the perception level, some students still hold misconceptions about psychological counseling and worry about being labeled as having “mental health problems,” resulting in certain concerns about seeking professional help. At the service provision level, traditional psychological counseling often involves relatively complex appointment procedures and formal service settings, which may reduce students’ willingness to seek help proactively when their mental health problems have not yet become severe. This mismatch between existing service provision and college students’ mental health needs limits, to some extent, the coverage and effectiveness of mental health services.

2.3 Mental Health Services in Higher Education Institutions Lack a Continuous Support System

As college students’ mental health needs continue to grow, higher education institutions have continuously improved their mental health service systems. However, survey findings indicate that existing services still have certain limitations. Currently, mental health services in most higher education institutions primarily focus on psychological assessment, psychological counseling, and crisis intervention. Service provision is largely centered on intervention after mental health problems have emerged, while insufficient attention is given to students’ daily emotional changes, stress regulation, and continuous mental health support. As a result, the existing service model remains relatively fragmented and reactive.

Furthermore, traditional mental health services still face limitations in terms of service formats and resource integration. Online mental health resources and offline services lack effective coordination, while service components such as psychological assessment, counseling, and activities operate relatively independently and have not yet formed a continuous support system. At the same time, in response to the diverse and

individualized mental health needs of college students, existing services still have considerable room for improvement in terms of interactive experiences, digital applications, and continuous support, making it difficult to fully meet students’ needs for everyday mental health management. Therefore, it is necessary to further develop a mental health service system based on the characteristics of college students’ mental health needs and promote a shift in mental health services from crisis intervention to continuous support and from single-service provision to diverse and collaborative services.

III. “BOUNDARY-CROSSING WANDERER”: DESIGNING MENTAL HEALTH SERVICES TAILORED TO COLLEGE STUDENTS’ NEEDS

3.1 Overall Project Framework

Addressing current issues in mental health services for college students, such as limited service coverage, low rates of proactive help-seeking, and insufficient continuous support, the “Boundary-Crossing Wanderer” project explores new pathways for the integrated development of online and offline mental health services in higher education institutions. It does so by establishing a mental health support system that combines an online digital platform with offline immersive activities.

As shown in Fig. 1, the project adopts a closed-loop service architecture consisting of emotion recognition, emotion expression, emotion regulation, and emotion feedback. During system operation, users first establish personal mental health profiles through daily mood records, psychological assessments, and behavioral data collection. The platform uses artificial intelligence algorithms to analyze and assess users’ emotional states and provides targeted emotion regulation recommendations based on individual differences. At the same time, the system integrates mindfulness training, meditation courses, and emotional management tasks to guide students in self-regulation, thereby helping them enhance their emotional awareness and psychological resilience.

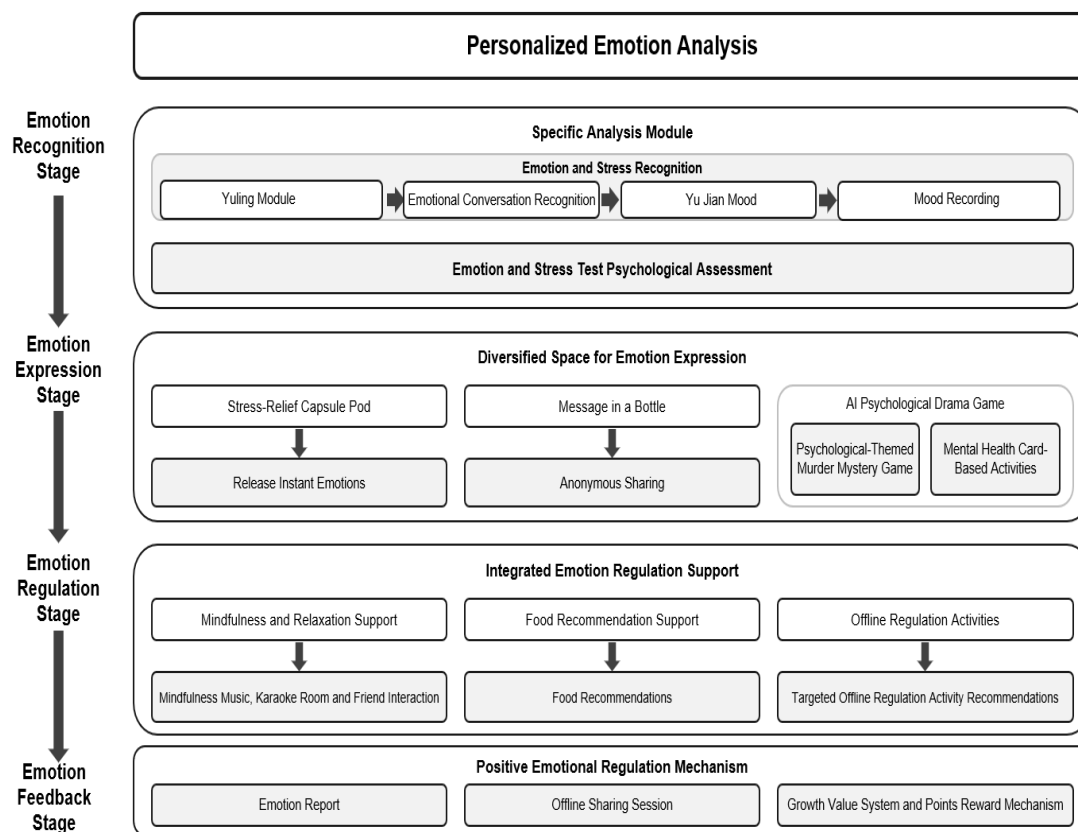


Fig. 1 Overall Architecture of the “Boundary-Crossing Wanderer” System

Unlike traditional mental health services, which primarily rely on psychological counselors, the “Boundary-Crossing Wanderer” project places greater emphasis on integrating digital technologies and social support resources. Through virtual pet companionship, online interest-based communities, and offline activities such as murder mystery games, card-based activities, yoga, and meditation, the project builds a multi-level mental health support network, enabling students to express their emotions and access social support in a relaxed and interactive environment. This service model, which integrates digital mental health support, community-based mutual support, and immersive experiences, helps overcome the limitations of traditional psychological counseling in terms of time, space, and human resources.

From a functional perspective, the project mainly consists of four components: the emotion management system, intelligent recommendation system, community support system, and offline practice system.

The emotion management system is responsible for monitoring and assessing users’ mental health states; the intelligent recommendation system provides personalized mental health support plans based on user characteristics; the community support system promotes interaction and communication among users; and the offline practice system reinforces personal growth and mental health support through experiential activities. Together, these components form an integrated mental health service ecosystem for college students.

3.2 Design of the Continuous Support Mechanism

Continuous support is the core philosophy of the “Boundary-Crossing Wanderer” project. Its purpose is to transform the linear model of traditional mental health services—“problem identification → counseling → intervention completion”—into a model that provides continuous support and dynamic assistance throughout the mental health development process of college students. Based on the basic patterns of emotional development

among college students, the project establishes a four-stage mental health support model consisting of emotion recognition, emotion expression, emotion regulation, and emotion feedback. Each module performs a relatively independent service function while remaining dynamically connected through platform data, thereby forming a continuous mental health support loop.

First, Emotion Recognition Establishes a Dynamic Emotional Monitoring Mechanism. Emotion recognition serves as the starting point of the continuous support mechanism of the “Boundary-Crossing Wanderer” project and provides an important foundation for delivering targeted mental health support. Traditional

mental health education in higher education institutions relies primarily on periodic psychological assessments and manual interviews, making it difficult to monitor students’ daily emotional changes in a timely manner. As shown in Fig. 2 the project develops an emotion recognition module that integrates emotion data collection, intelligent recognition, dynamic analysis, and risk warning. Through digital technologies, the module enables continuous monitoring of college students’ mental health states and provides data support for subsequent stages of emotion expression, emotion regulation, and psychological intervention.

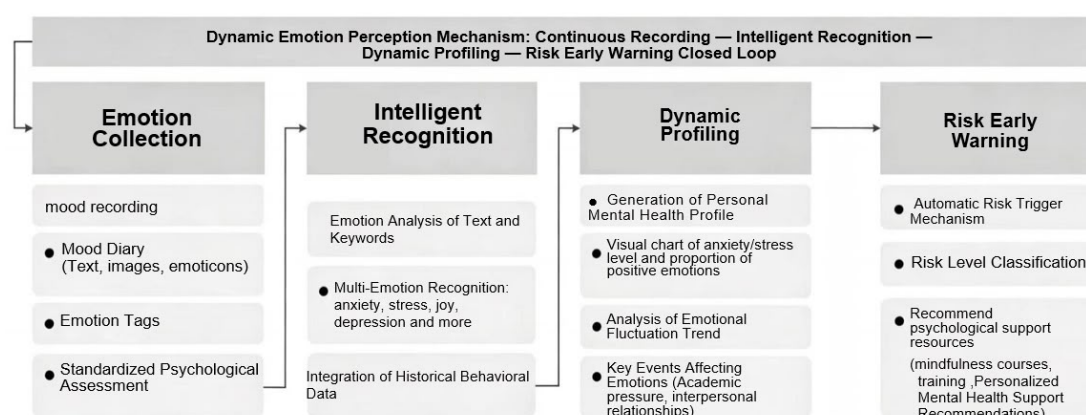


Fig. 2 Dynamic Emotion Recognition and Risk Early Warning Mechanism

Second, Emotion Expression Creates a Diverse Space for Emotional Release. To address the practical difficulties faced by college students, including unwillingness, reluctance, and difficulty in expressing emotions. As shown in Fig. 3, the project develops an emotion expression module that integrates situational experiences, anonymous sharing, intelligent interaction, and peer support. The AI Psychological Drama Game allows users to co-create card games and murder mystery scenarios with AI, enabling them to express their mental health needs more freely and engage in self-reflection with AI guidance. The “Message in a Bottle” feature allows users to express their emotions and anonymously share their concerns, providing an outlet for emotional expression and opportunities to receive warmth and social support. The Stress-Relief Capsule Pod provides users with a private space for emotional expression and

incorporates various stress-relief tools and scenarios to help users express their emotions and relieve stress.

Third, Emotion Regulation Provides Personalized Mental Health Support Plans. As shown in Fig. 4, given the diverse sources of psychological stress among college students and significant individual differences, the project uses the results of intelligent analysis to develop an emotion regulation module that integrates intelligent companionship, psychological exercises, game-based incentives, and habit formation, providing personalized mental health support plans for different users. Based on users’ emotional states, the platform automatically recommends emotion regulation content such as mindfulness training, relaxation music, and breathing exercises. At the same time, selected techniques from cognitive behavioral therapy (CBT) are transformed into interactive activities, including card-based tasks, role-

playing, and situational challenges, making the process of emotion regulation more engaging and closely connected to students’ daily lives. This design helps reduce college

students’ resistance to traditional psychological counseling and increases their willingness to participate in mental health support activities.

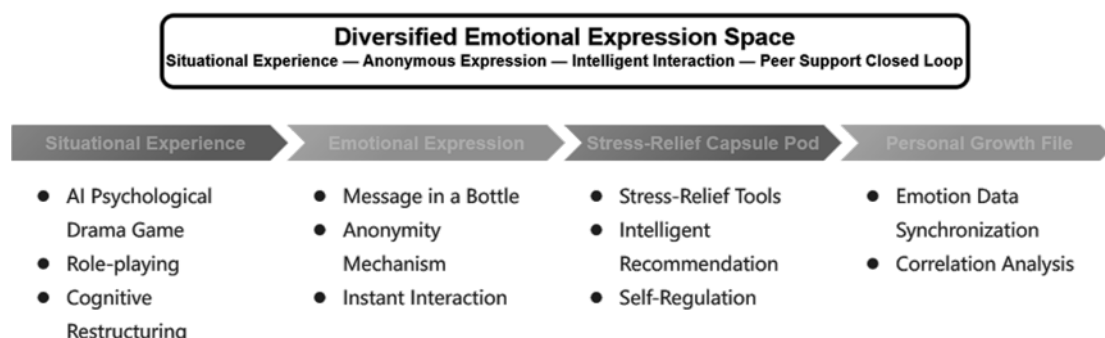


Fig. 3 Diversified Emotional Release Mechanisms

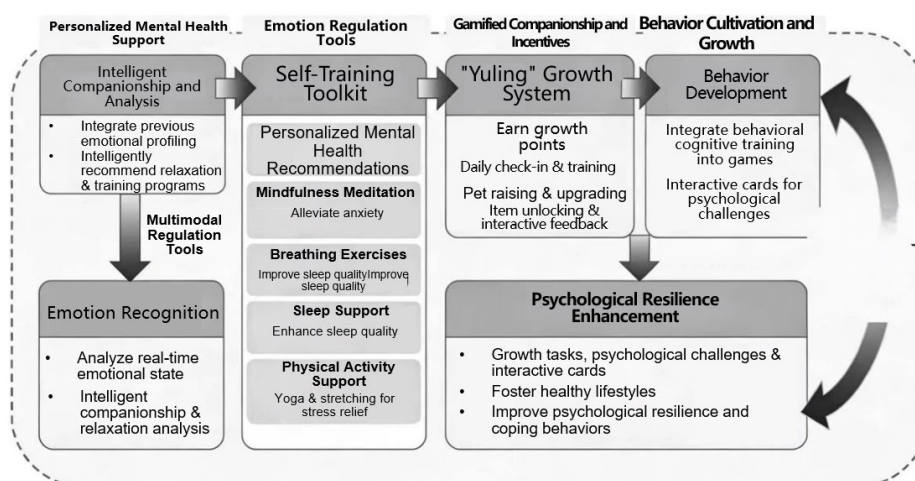


Fig. 4 Personalized Emotion Regulation Support Mechanism

Fourth, Emotion Feedback Establishes a Long-Term Growth Feedback Mechanism. As shown in Fig. 5, during the emotion feedback stage, the platform periodically generates emotional development reports that visually present changes in users’ mental health states and provide personalized recommendations based on their

growth trajectories. Through mechanisms such as reward points, growth badges, and stage-based goal feedback, the platform encourages students to gradually develop positive emotional management habits and facilitates a transition from short-term emotional relief to long-term personal growth.

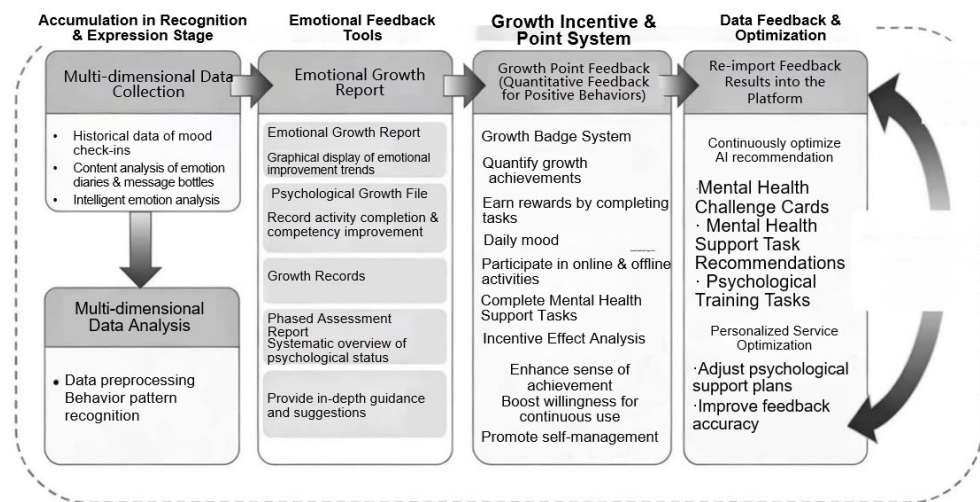


Fig. 5 Emotion Feedback and Personal Growth Mechanism

3.3 Online-Offline Integration Mechanism

The online-offline integration (OMO) model is an important innovative practice of the “Boundary-Crossing Wanderer” project, with the core objective of establishing a continuous mental health support system that connects digital spaces with real-world settings.

At the online level, the project relies on a mobile platform to create a digital mental health service space. Users can engage in self-regulation through features such as mood recording, emotion assessment, meditation training, virtual pet interaction, and community discussions. The system uses artificial intelligence to analyze users’ mental health data and dynamically recommends appropriate mental health support content based on changes in their emotional states, thereby providing personalized services.

At the offline level, the project designs a series of immersive experiential activities based on the interests and characteristics of college students, including psychological-themed murder mystery games, mental health card-based activities, yoga sessions, and mental health growth salons. Compared with traditional lecture-based mental health education, these activities are more consistent with the participation preferences of young people and promote emotion expression and self-awareness through interactive experiences.

Furthermore, the project emphasizes the

interconnection of online and offline data. Students’ mood records, task completion data, and personal growth data generated online are synchronized with their personal growth profiles, while participation in offline activities and feedback are also fed back into the platform’s recommendation system and serve as important references for optimizing subsequent services. By establishing a data-driven dynamic adjustment mechanism, the project enables the precise matching and continuous tracking of mental health services.

According to the social support buffering theory, a strong social support system can reduce the negative psychological effects of stressful life events^[5]. Therefore, the “Boundary-Crossing Wanderer” project integrates online communities with offline activities, enhancing students’ sense of belonging and social connectedness through shared participation, peer support, and continuous support, thereby improving the effectiveness of mental health support. This model not only expands the coverage of mental health services but also promotes a shift in mental health education in higher education institutions from a single counseling-based model to a diversified and collaborative service model.

IV. IMPLEMENTATION STRATEGIES FOR THE COLLEGE STUDENT MENTAL HEALTH SERVICE MODEL

4.1 Establishing a Low-Threshold Mental Health Support Service System

Although the mental health service system in higher education institutions has been continuously improved, students' willingness to seek professional help proactively remains relatively low. On the one hand, some students hold stereotypical perceptions of psychological counseling and believe that seeking such services indicates the presence of relatively serious mental health problems. On the other hand, traditional mental health intervention models in higher education institutions have limited coverage and lack targeted approaches, making it difficult to meet the diverse and individualized mental health support needs of contemporary college students^[1]. Therefore, higher education institutions should explore more accessible and everyday forms of mental health support to lower the barriers to students' participation in mental health services.

Taking the “Boundary-Crossing Wanderer” project as an example, the project creates mental health support scenarios that integrate gamification, social interaction, and digital technologies, incorporating mental health education into activities popular among young students, such as murder mystery games, board games, and virtual pet interaction. This transforms the process of mental health self-regulation from “passive acceptance” to “active participation.” For example, the mental health board games designed by the project transform techniques such as emotion recognition and cognitive restructuring from cognitive behavioral therapy (CBT) into interactive tasks, helping students express their emotions and engage in self-regulation through enjoyable activities.

The online community and “Message in a Bottle” feature developed by the project provide students with an anonymous space for emotional expression. Users can record their emotions, share their experiences, and receive peer support in a relatively safe and open environment. Fostering an inclusive campus mental health culture and reducing the stigma associated with mental

health services can effectively alleviate students' concerns about seeking help and increase their participation in mental health services^[4]. Therefore, by reducing the formality and perceived professional barriers associated with traditional psychological counseling, the “Boundary-Crossing Wanderer” project brings mental health services closer to college students' daily lives and improves the accessibility and participation of mental health services.

4.2 Establishing a Continuous Mental Health Support Mechanism

In the past, mental health services in higher education institutions have largely relied on periodic psychological screening and individual counseling. Existing intervention systems may respond relatively slowly, with their focus largely placed on post-crisis intervention^[2]. As college students' mental health needs have gradually expanded from crisis response to emotion management, stress regulation, and personal growth, traditional problem-oriented service models have become increasingly inadequate to meet these needs. Therefore, mental health services in higher education institutions should gradually extend from crisis intervention to daily support and establish a continuous mental health support mechanism, enabling early identification, early support, and continuous assistance for students experiencing mental health difficulties.

Guided by the concept of continuous support, the “Boundary-Crossing Wanderer” project establishes a continuous service system covering emotion recognition, emotion expression, emotion regulation, and emotion feedback. During project operation, the system continuously monitors changes in users' mental health states through methods such as mood diaries, psychological assessments, and behavioral data analysis. It also uses artificial intelligence algorithms to generate personalized mental health profiles and provide users with dynamic support plans.

In addition, the project's virtual pet system, “Yuling,” provides differentiated interactive feedback based on users' emotional states and strengthens users' emotional connection through daily interaction. Online communities, peer-support groups, and offline experiential

activities together form a social support network. According to Gross’s process model of emotion regulation, the sustained use of emotion regulation strategies such as cognitive reappraisal can help improve individuals’ emotion regulation and overall psychological adaptation^[3] This enables students to continuously access emotional support and mental health resources throughout their studies, daily lives, and interpersonal interactions. The project therefore helps overcome the limitations of traditional mental health services that often rely on short-term intervention, promoting the development of mental health services in higher education institutions toward a more preventive, developmental, and growth-oriented approach.

4.3 Strengthening Digital Technology to Promote Integrated Online and Offline Services

The development of digital technologies has provided new pathways for innovation in mental health education in higher education institutions. Higher education institutions can leverage digital technologies such as artificial intelligence and big data to integrate online mental health support platforms with offline experiential activities, thereby establishing a coordinated online-offline mental health service system, expanding service coverage, and improving the precision of service delivery. The “Boundary-Crossing Wanderer” project has established a smart mental health service system combining an “online digital platform + offline immersive scenarios.” At the online level, the system provides personalized services through functions such as emotion recording, behavioral analysis, and intelligent recommendations. At the offline level, immersive activities such as mental health board games and murder mystery games enhance user engagement and participation, thereby creating an integrated online-offline mental health support ecosystem. Furthermore, the project explores the application of multimodal data integration in practice. By integrating users’ emotional records, behavioral data, and activity participation data, the project enables dynamic monitoring of mental health states and more precise service recommendations, thereby improving the relevance and effectiveness of mental health education.

V. CONCLUSION

Psychological stress among college students is characterized by its everyday occurrence, continuity, and subtlety. Mental health services in higher education institutions should not only focus on psychological counseling and crisis intervention after mental health problems arise but also strengthen continuous support for students’ daily emotional changes, stress regulation, and personal growth. The survey found that a gap remains between college students’ needs for mental health services and their actual utilization of such services. Some students are reluctant to seek help proactively because of concerns about psychological counseling and the relatively formal nature of service delivery. At the same time, existing mental health services are largely concentrated on psychological assessment, counseling, and crisis intervention, while online mental health resources, offline activities, and subsequent feedback lack effective coordination, making it difficult to establish a continuous mental health support process.

To address these issues, the “Boundary-Crossing Wanderer” project relies on the OMO Mental Health Development System to construct a four-stage mental health support model consisting of emotion recognition, emotion expression, emotion regulation, and emotion feedback. The model integrates daily mood recording, psychological assessment, intelligent analysis, anonymous emotional expression, and virtual pet companionship into an interconnected service process. At the online level, the project provides students with daily mental health support through functions such as mood recording, meditation training, community interaction, and virtual pet interaction. At the offline level, activities such as psychological-themed murder mystery games, mental health card-based activities, yoga and meditation sessions, and mental health growth salons provide spaces for emotional expression, interactive experiences, and peer interaction. Online mood records, task completion data, and personal growth data are connected with participation in offline activities, allowing emotion recognition, emotion expression, emotion regulation, and emotion feedback to

form a relatively continuous mental health service process.

The project demonstrates that improving mental health service models in higher education institutions cannot rely solely on increasing the frequency of psychological counseling. It also requires adjustments to service formats, integrating mental health support into college students’ daily learning and living environments and strengthening connections between online platforms and offline activities. In future practice, the project should continue to refine mood recording, content recommendations, growth reports, and offline activity arrangements based on student participation and actual feedback, while further evaluating the applicability of the model to different student groups. At the same time, greater attention should be paid to the integration of online services with existing mental health services in higher education institutions, ensuring that digital mental health support, offline experiential activities, and professional psychological services complement one another effectively. In this way, the model can better meet college students’ needs for daily emotional management and continuous mental health support.

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