


## Article

# Knowledge Management-Based Mental Health Service Model: Sustainable Application during College Students' Education

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**Abstract:** In order to meet the dynamic mental health needs of college students, it is important to promote quality mental health services and to improve the development view of college students' mental health. This paper uses a knowledge management method to construct college students' developmental mental health service model. The model is informed by knowledge management, which comprehensively considers service-related components, namely, resources, content, approach, process, personnel, and objects. Furthermore, knowledge management constructs the system structure of the model and expands the research ideas and contents of the service resource pool. Moreover, knowledge management supports the platform, core technology system, and service process in the model. Finally, using Suzhou University as an example, this study examines the implementation and application of the service model to test the effectiveness of the knowledge management method. Thus, this study provides theoretical and methodological support for the construction, implementation, and application of a sustainable mental health service model for college students.

**Keywords:** college students; mental health service model; knowledge management; sustainable application



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## 1. Introduction

With the rapid progression of science and technology, as well as the in-depth development of social change, there is a widespread increase in knowledge against the backdrop of a fiercely competitive environment. These developments contribute toward creating a free, full, and broader development space for college students and introducing complex transmutations of concepts, consciousness, and emotional attitude to college students. College plays an important role in mental health and healthy behavior. Recently, symptoms of depression, anxiety, eating disorders, and other mental illnesses among college students have increased [1], exacerbating the prominence of the “campus mental health crisis” [2]. There is evidence indicating an increase in the number of students with mental health problems during college admission [3] and who have not returned to the pre-university registration level during the course [4]. College students in the environment of higher education are often on a path of self-discovery, identity exploration, and personal growth [5]. An increased focus on the provision of mental health services can strengthen the psychological quality of college students [6] while improving their mental health status [7]. Improvements in mental health are the inevitable requirements to cope with higher education, facing the world, navigating the future, and modernization. Colleges and universities around the world are trying to meet the growing demand for mental health services. Furthermore, there is an urgent need to promote the best practice when implementing mental health service models in higher education.

Mental health has become of growing concern among college students on campus. There is evidence that psychopathology among college students has increased significantly [8] and their mental health has generally deteriorated [9]. Gupta et al. [10] studied the correlation between Internet addiction and the mental health of undergraduates in a university in northern India and found that depression, anxiety, and stress [11] were related to college students' Internet addiction (IA). Studies [1] have also shown that various behavioral addictions can lead to neurological symptoms. Goldberg et al. (2019) [12] used survey data from 506 transgender students to explore the mental health and health care experience of transgender college students in higher education. Oswalt et al. [13] examined the diagnosis and treatment changes of 12 mental health disorders among college students. Furthermore, they analyzed the students' previous use of campus mental health services, and their willingness to seek mental health services in the future. Hao et al. [14] proposed that Chinese college students have mental health problems associated with alexithymia and mobile phone addiction. College students are a unique group of people with increased psychological stress, partly due to the COVID-19 pandemic [15]. The COVID-19 pandemic has impacted research on the mental health of college students [16–18]. A study found that college students have higher stress and anxiety than individuals who are not in college [19]. For example, the digital divide [20] has an impact on the mental health of college students in terms of emergency online learning. In addition, the lack of digital security for college students in online learning environments is associated with increases in general psychological distress [21]. The mental health needs of college students are larger and, evidently, more complex than before. Mental health problems can damage academic achievement and career success [22] as well as affect the development of the whole society [23]. However, not all campuses have developed a mental health service model for their students [24]. The development of health service teams lacks specialization [9] due to single service channels and methods, thus many campuses have been unable to meet this demand [25]. Despite the availability of extensive and diverse resources, there is limited evidence to determine which model and programs are best suited to meet the mental health needs of students.

To deal with the common and complex mental health problems among college students [26], increased attention should be placed on mitigating serious mental health problems among students in colleges and universities [27]. In the sample of college students, it was found that the utilization rate of mental health services increased significantly [28], with 10% of college students seeking services from campus health counseling [29]. The treatment for mental health services for college students involves psychodynamic psychotherapy for depression, anxiety [30], and borderline personality disorder [31]; Cognitive-behavioral therapy for depression, social and specific phobia [32], panic disorder, and obsessive-compulsive disorder [33]; Psychotropic drugs for major depression, bipolar disorder, panic disorder [34]. Simultaneously, scholars have pointed out that it is necessary to adopt a cross method [35] when researching mental health services for lesbian, gay, bisexual, transgender, queer, or another diverse gender identity (LGBTQI) community to mitigate service usage and seeking among marginalized groups of people. Rafal et al. [36] pointed out that interventions focusing on increasing mental health knowledge and improving beliefs can improve the mental health literacy (MHL) of male college students. In addition, more and more college students use embedded counseling services [37] and remote mental health (RMH) services [38]. The digital mental health service provided by the mobile application is a supplement to the face-to-face service of college students, which avoids the obstacles of traditional treatment, such as time and convenience [39]. Research shows that college students generally have a positive attitude toward online mental health services, and most college students express their willingness to use such services [40], which can effectively improve depression, anxiety, and stress [41,42]. Colleges and universities need to pay special attention to students with poor mental health. With the joint efforts of the government and relevant organizations, they should formulate mental health policies to prevent, discover, and treat the mental diseases of college students.

In the process of literature review, we found that most of the existing studies focused on college students' mental health diagnosis and the utilization trend of mental health services, and less on college students' mental health service model and system structure. With the COVID-19 pandemic, the dynamic needs of college students' mental health have attracted significant attention from colleges and universities. The developmental and continuous follow-up mental health support model needs to be supplemented and developed urgently. In addition, with the development and progress of science and technology, various management theories and scientific ideas continue to push through the old and bring forth the new. Among them, knowledge management theory [43] is being used by the majority of organizations with its vigorous vitality and scientific application and has achieved good results. The relevant exploration of combining knowledge management theory with college students' mental health services needs to be carried out urgently. To meet the above challenges, this paper constructs the college students' developmental mental health service model based on knowledge management [44], positions the system structure of the model, and tries to explore a set of more scientific, practical, and developmental college students' mental health service model to alleviate the current demand for the development of college students' mental health service.

This research has theoretical and practical significance. The study is theoretically significant as the construction of a developmental mental health service model for college students based on knowledge management theory provides a new research perspective. The research is practically significant because the article can help colleges and universities to reintegrate mental health service resources, comprehensively locate mental health service personnel, and provide a theoretical basis for rationed planning of mental health services.

This study aims to build a developmental mental health service model for college students based on knowledge management theory. In order to achieve the research objectives, the framework of this study is as follows: Section 2 outlines the connotation of college students' developmental mental health service model based on knowledge management. Section 3 outlines the framework of college students' developmental mental health service model based on knowledge management. Section 4 provides the key technology research used in this study. Section 5 underscores the service process of college students' developmental mental health based on knowledge management. Section 6 presents the case study and Section 7 the conclusion.

## 2. Developmental Mental Health Service Model Based on Knowledge Management

The theory of knowledge management was first proposed by Michael Polanyi (1958). Later, scholars [45,46] further studied knowledge management and believed that knowledge management includes the management of information, communication, human resources, intellectual capital, and so on [47]. Knowledge management theory has always been regarded as an important carrier [48] for the innovation and development of higher education, which shows the potential of implementing a knowledge management plan in universities [49]. At present, knowledge management theory has been applied to the optimization of curriculum systems [50,51], innovation, entrepreneurship education [52], the improvement of college students' professional quality [53], higher education management, and educational innovation [54]. Supermane [55] explored the intermediary role of knowledge management in transformational leadership and innovation of teaching activities. Hu et al. [56] constructed the unison framework of university and industry cooperative knowledge management. Ngoc-Tan and Gregar [57] discussed the relationship between knowledge management and higher education innovation based on empirical evidence from Vietnam. Some scholars [58,59] emphasize that embedding knowledge management into higher education institutions can promote the sustainability of higher education. The existing research on knowledge management in higher education is still decentralized and needs to be systematized [60]. This paper fully grasps the basic characteristics of knowledge management, that is, "combining personnel, process and technology to promote a sound information sharing system, and guiding the organization to carry out

continuous reflection and learning” [61] to build a developmental mental health service model for college students based on knowledge management.

Based on the research of college students’ mental health service resource pool [62] and knowledge management support platform [63,64], combined with the idea of knowledge management and the characteristics of college students’ mental health development needs, the college students’ developmental mental health service model can comprehensively consider the service objectives, guarantee measures, service contents, implementation approaches, and service processes. It can effectively promote the integration and distribution of college students’ mental health service resources, and give full play to the due advantages of college students’ mental health services. College students’ mental health service resource pools should efficiently integrate all forms of scattered college students’ mental health service resources into one pool to form a systematic and integrated resource pool. The knowledge management support platform is a place for resource integration and value-adds. It uniformly manages and schedules the resources in the resource pool to realize the sharing and effective application of service resources.

College students’ developmental mental health service model based on knowledge management can better provide comprehensive, convenient, and reliable mental health services for college students. Compared with the existing mental health service (Education) model for college students, it has the following characteristics:

(1) Wide area of participating resources

The establishment of college students’ mental health service resource pool can integrate, centrally store, and distribute the mental health service resources scattered in various places and institutions, eliminate the restriction of regional space, realize the orderly accumulation of various service resources, and make the operation of service model in a broader resource environment.

(2) All-round participation of service personnel

Developmental mental health service requires diversified mental health education objects and service team personnel for all students, education experts, clinical psychologists, psychiatrists, school medical workers, psychologists, educators, student workers, and management workers, to ensure the omnidirectional nature of participants.

(3) Comprehensiveness of mental health services

From the perspective of the development of the service process, the ways of college students’ mental health services should use various resources of mental health service to provide comprehensive mental health services to college students. Combined with the development process of college students’ mental health service needs, this model adopts the following ways to deal with college students’ mental health services: mental health knowledge education, consulting service, psychological counseling, evaluation and testing, crisis intervention, and so on.

(4) The systematicness of the mental health service process

College students’ mental health service is a systematic project [65], not isolated. College students’ mental health service is in the social-ecological environment system where college students live, which requires college students’ mental health service to fully consider the environmental factors where college students live, and comprehensively use various mental health service means to ensure that all kinds of college students’ mental health service ways are interrelated and organically combined.

(5) Dynamic operation of service model

The mental health needs of college students are undergoing dynamic development, thus each service module in the service model should also be constantly updated and developed. To ensure that the service model meets the mental health needs of the college students timeously, it is pertinent that the development of the knowledge management

supports the platform of the service resource pool, and that it is regularly updated to improve the provision of services.

(6) Convenience of resource acquisition

Develop the knowledge management support platform of the service resource pool as the hub of resource integration, storage, and release. Its main task is to carry out corresponding knowledge management activities for college students' mental health service resources, to ensure the convenience of all mental health service personnel in obtaining service resources.

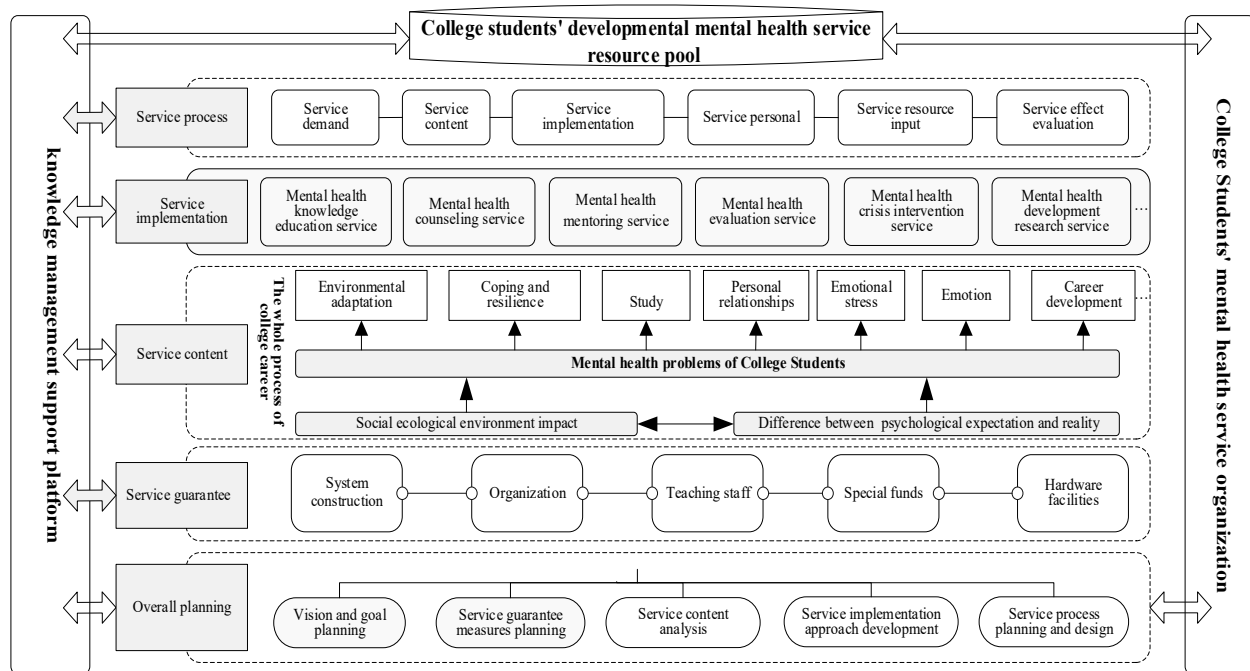
These six characteristics are in line with the direction of college students' mental health services [66] and the trend of service utilization [55]. With the support of knowledge management technology platforms, the developmental mental health service model for college students based on knowledge management effectively cooperates and integrates service resources, service personnel, service approaches, service processes, and service modes, focuses on building an integrated mental health service model framework for college students, and realizes the construction from a single dimensional service system to a multi-dimensional integrated service system. Based on these six characteristics, this study basically constructed the framework of college students' developmental mental health services model based on knowledge management.

### 3. Framework of College Students' Developmental Mental Health Service Model

To meet the mental health needs of college students, scholars use the EAP service model [67,68], mental health double continuous model [69], and health belief model [70] to build college students' mental health service models. Cornish et al. [71] reshaped college students' mental health service through stepped care 2.0. These frameworks laid an important foundation for the construction of college students' mental health service models. The mental health needs of college students are more extensive and more complex than ever before. Although the resources available are extensive and diverse, there is limited evidence [24] to support which models and programs best meet the needs of students. With the wide application of knowledge management theory in colleges and universities [59,72], this study drew from the views of Harb and Abu-Shanab [73] on the knowledge management framework constructed from four dimensions: business dimension, technology dimension, personnel dimension, and application dimension, as well as the knowledge management process model of Raudeliūnienė et al. [74]. The process of knowledge management includes knowledge acquisition, knowledge storage, knowledge transformation, knowledge application, knowledge exchange, and knowledge innovation.

The construction of college students' developmental mental health service model based on knowledge management is a complex and systematic project, which involves the integration and development of many key elements. Combined with the connotation of college students' developmental mental health service model based on knowledge management, this study establishes a framework of college students' developmental mental health service model based on knowledge management, as shown in Figure 1.

College students' developmental mental health service model provides an important direction for solving the problems encountered in college students' mental health service. As can be seen from Figure 1, the framework of college students' developmental mental health service model based on knowledge management mainly includes the supervision and management of college students' mental health service organization, the establishment of college students' developmental mental health service resource pool and the construction of knowledge management support platform. Based on this, the service model is divided into five basic modules: overall planning, service guarantee, service content, service implementation, and service process. Each module is interrelated to form a dynamic and effective service implementation process.



**Figure 1.** Framework of college students' mental health service model based on Knowledge Management.

College students' mental health service organizations include national higher education management departments, local education bureaus, psychological education research centers of colleges and universities, mental health consulting centers, school hospitals, and social psychotherapy institutions. These organizations are important as they supervise, manage, and provide mental health services for college students. The development, implementation, and operation of college students' developmental mental health service model based on knowledge management largely depend on these organizations. Therefore, while considering the construction of college students' developmental mental health service model based on knowledge management, we should pay attention to the establishment of relevant college students' mental health service organizations.

The establishment of college students' mental health service resource pool and the construction of a knowledge management support platform is an important support for the successful construction of college students' developmental mental health service model based on knowledge management. Through the establishment of college students' mental health service resource pool, the integration of college students' mental health service resources can be realized, and the required service resources can be provided time for the service organizations or personnel in the process of college students' mental health service. Simultaneously, building a knowledge management support platform and carrying out corresponding knowledge management activities can realize the orderly accumulation and continuous updating of service resources in the mental health service resource pool of college students; It can also provide a platform for college students' mental health service organizations or individuals to obtain service resources quickly and conveniently, and conduct collaborative communication through this platform. Therefore, it can be said that the knowledge management support platform is an important hub connecting college students' mental health service resource pool and college students' mental health service organizations and personnel. Its construction provides important support for the implementation and operation of college students' developmental mental health service model based on knowledge management.



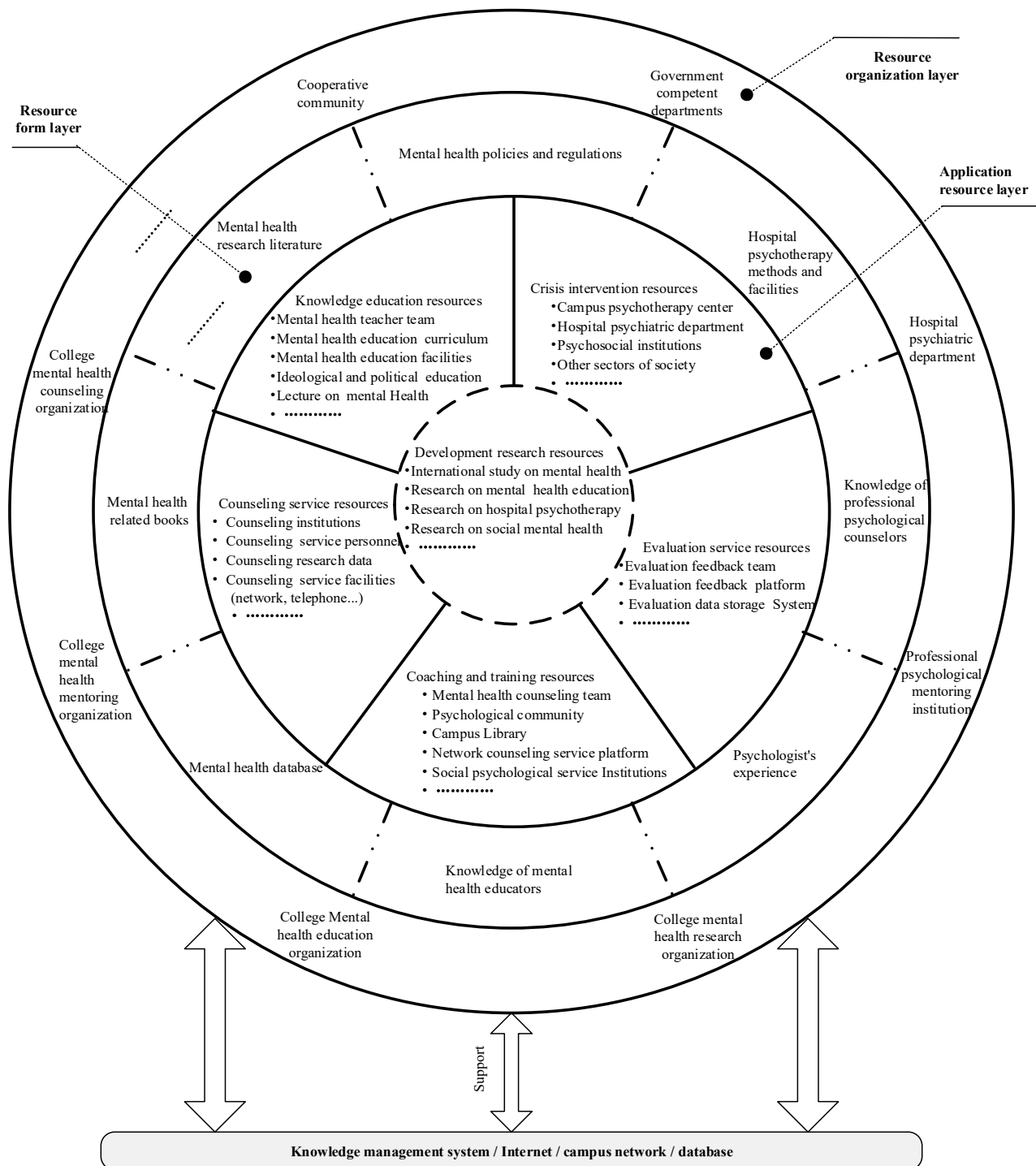
The overall planning involves vision and goal planning, service guarantee, service content, service implementation, and service process. Among them, service guarantee involves system construction, organization, teaching staff, special funds, hardware facilities, etc. Service content reflects the entire process of college career planning and the common psychological problems faced by college students, such as maladjustment caused by environmental changes, emotional, and psychological obstacles caused by interpersonal communication, stress, emotion, coping, and resilience. The service implementation includes mental health knowledge education services, mental health consulting services, mental health implementing services, mental health evaluation services, mental health crisis intervention services, and mental health development research services. Service process includes service demand, service content, service implementation, service personnel, service resource input, and service effect evaluation. For example, in view of the role of resilience in the self-recovery process of college students' mental health, it is necessary to strengthen students' resilience training in the service implementation module, resilience-related courses are added to mental health knowledge education, and resilience consulting window is included in mental health consulting services. In the service guarantee module, while strengthening the internal protection factors, it is necessary to establish the support of teachers, family, and friends to develop the external protective factors.

Scholars [75,76] pointed out that all knowledge management processes have potential effectiveness. The developmental mental health service model of college students based on knowledge management is a systematic, comprehensive, sustainable, and multi-party linkage service system for college students' psychological problems [77] in learning, life, interpersonal communication, emotion, employment, and so on. The service model conforms to the mental health needs [78] and reform suggestions [79] of today's college students. The core advantage is to form a spiral closed-loop network of college students' developmental mental health service model, and to realize the reproduction and retransmission of knowledge of mental health services in the closed-loop network. The service model is expected to strengthen college students' cognition [80] of the health service model and solve the dilemma [81] of single service objects, single application forms, and single service subject of college students' mental health service models. At the same time, the construction of this service model is of great significance to the development of colleges, universities, and college students. For colleges and universities, it is conducive to the long-term development of the school to provide student-centered, long-term, effective, and systematic mental health service guidance for school mental health service providers. It is helpful for college students to solve all kinds of psychological problems they encounter in time, avoid the development of larger psychological problems, and shape their personalities [82].

#### 4. Key Technology Research

##### 4.1. College Students' Developmental Mental Health Service Resource Pool

College students' developmental mental health service resource pool focuses on the social-ecological environment and the whole process of the development of college students' psychological needs and integrates all the mental health service resources required by the organization and personnel of mental health services. It involves many college mental health education service resources and mental health service resources to be developed. The disorder and isomerization of these resources will hinder the effective integration and utilization of resources. Therefore, re-integration of relevant service resources and effective integration and classification is the key to the establishment of a service resource pool. From the perspective of service resource users, this paper establishes a college students' developmental mental health service resource pool, as shown in Figure 2.



**Figure 2.** College students' developmental mental health service resource pool.

In order to reflect the whole process of obtaining college students' mental health service resources, this paper divides the college students' developmental mental health service resource pool into three layers, from the initial three layers of mental health service resources to the application layer:

The outermost layer is the resource organization layer, which is directly positioned to the organizations that can provide resources for college students' mental health services, such as government competent departments, college mental health research departments, mental health consulting centers, and university hospitals and social psychotherapy institutions. They are the source of mental health service resources.



The second is the resource form layer, which is the initial form of the existence of college students' mental health service resources in various mental health service organizations, such as the relevant laws and regulations on college students' mental health education in the competent government departments, the case study data of the college mental health research center, and the experience and knowledge mastered by psychologists in psychotherapy institutions. Comprehensively and fully mining these resources is the key link to building a resource pool.

The center is the application resource layer, which is the component layer of service resources to realize the final application of the resource pool in the service model. From the perspective of service resource users, this paper divides the application resources into six kinds of application service resources: knowledge education, psychological counseling, mentoring and training, testing and evaluation, crisis intervention, and development research. They are located in the central layer of the resource pool. Through the knowledge management support platform, it can realize the rapid acquisition and application of this resource.

#### *4.2. Knowledge Management Support Platform for the Development of a Mental Health Service Model for College Students*

College students' mental health service resource pool is a new concept. College students' mental health service activities involve many related resources. To reasonably and fully integrate and make good use of these resources, we need to carry out orderly knowledge management activities. This series of knowledge management activities are cumbersome and systematic. Therefore, it is very necessary to establish a knowledge management support platform around these mental health service resources. Moreover, realizing the rapid transfer and feedback update of service resources by college students' mental health service personnel also involves relevant knowledge management activities. Combined with a series of knowledge management activities such as the collection and processing of service resources, this paper establishes a knowledge management support platform architecture that can support the operation of college students' developmental mental health service model, as shown in Figure 3.

As can be seen from the above figure, the knowledge management support platform established in this paper includes three parts: platform support, basic activities of knowledge management, and a knowledge trigger system. The platform support part is the basis for building the knowledge management support platform, including vision and strategic planning, organization setting, personnel training arrangement, technical equipment configuration, and tool technology research and development. They are the basis for ensuring the effective operation of the knowledge management support platform.

The basic activities of knowledge management mainly include the knowledge management activities when establishing the service resource pool, including knowledge acquisition, knowledge generation, and knowledge storage. Through the combined use of these three knowledge management activities and other tools and methods, the establishment of mental health service resource pool can be realized. Knowledge acquisition is to search, develop and locate the organization and form of service resources, determine the source of resources, and preliminarily collect resources; Knowledge generation refers to refining and improving the knowledge of the initially collected resources based on knowledge acquisition and supported by certain knowledge generation tools and methods, to ensure the simplification and effectiveness of service resources; Finally, after the corresponding demand analysis and standardization of the processed resources, the resources are stored according to the demand form, and finally, the application service resources that can be directly extracted and used by the service subject are formed.

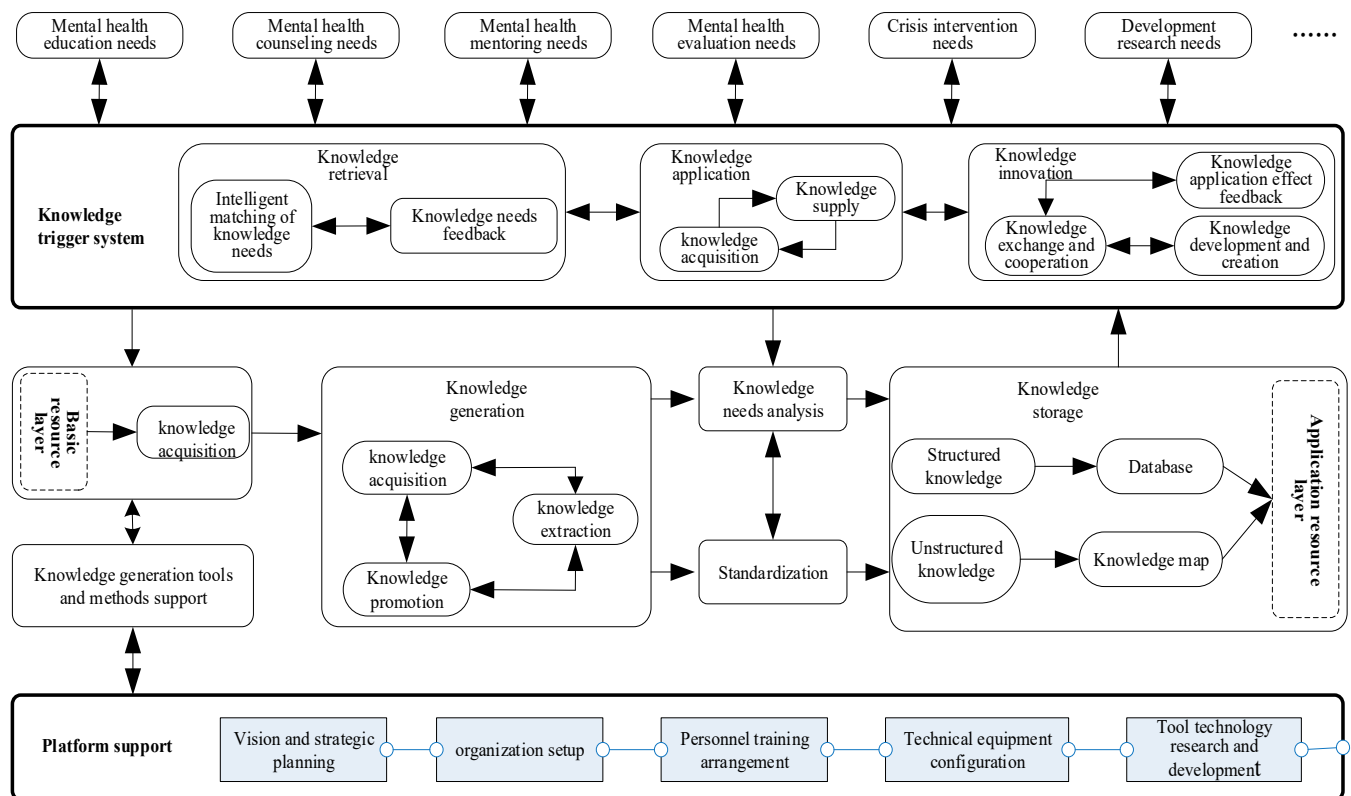
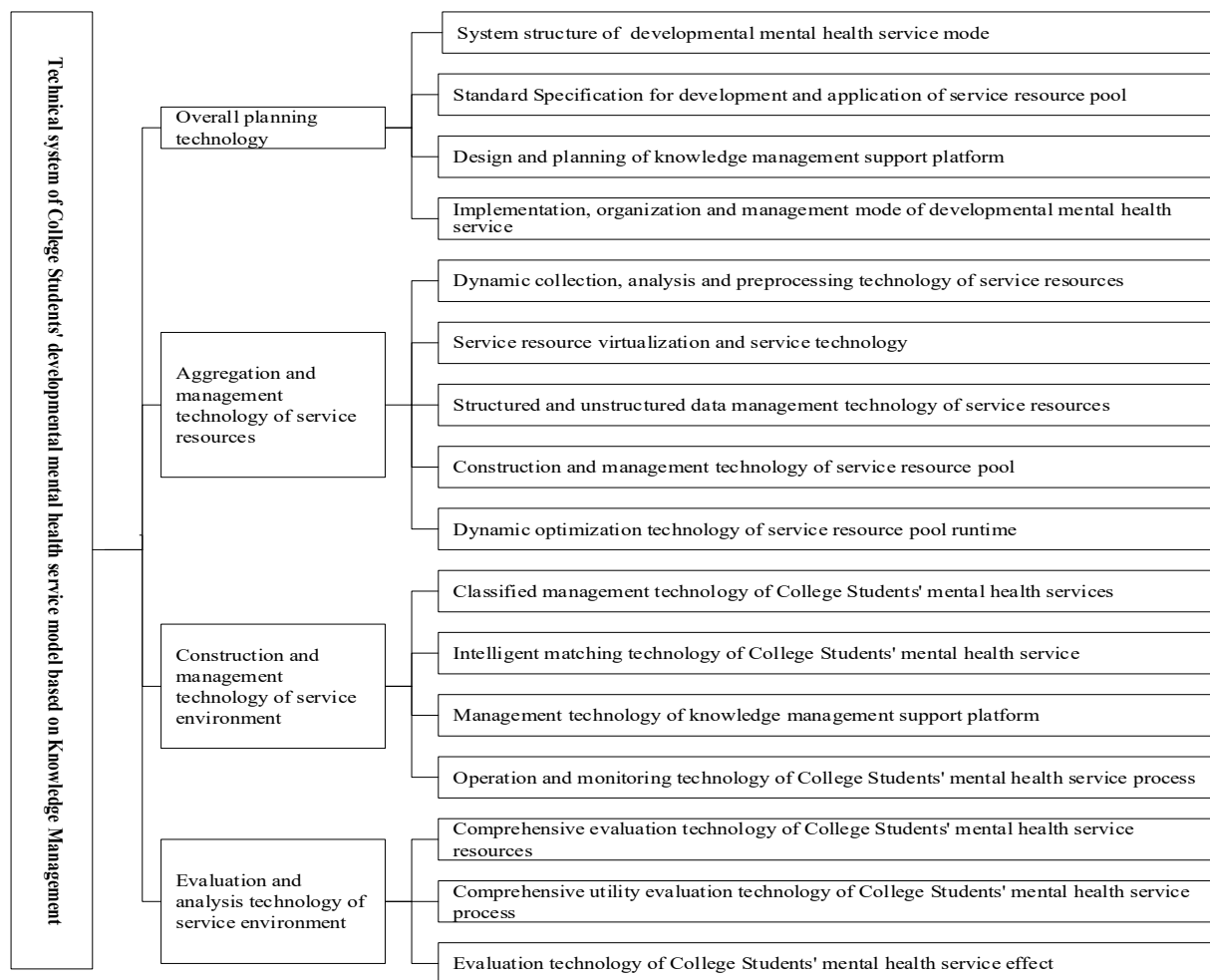


Figure 3. Architecture of knowledge management support platform.

A knowledge trigger system is an important platform to ensure that the service subject can obtain the required resources quickly and effectively. It realizes the connection between the service subject and the application service resources. It includes three links: knowledge retrieval, knowledge application, and knowledge innovation. Knowledge retrieval is when the service subject can quickly locate the required resources and realize the intelligent matching of relevant resources through certain retrieval equipment and tools; Knowledge application is to provide the required resources for the service subject and realize the supply and utilization of resources; Knowledge innovation mainly includes knowledge exchange and cooperation, application effect feedback, knowledge development, and creation, to ensure the development and renewal of mental health service resources in the service resource pool.

#### 4.3. Technical System of College Students' Developmental Mental Health Service Model Based on Knowledge Management

To systematically and deeply carry out the research, development, implementation, and application of college students' developmental mental health service model based on knowledge management, we first need to focus on the breakthrough of relevant technologies in the whole life cycle of mental health services for college students. This includes the overall planning technology of the service model, the aggregation and management technology of service resources, the construction and management technology of the service environment, and the evaluation and analysis technology of the service environment. They constitute the technical system of college students' developmental mental health service model, as shown in Figure 4.



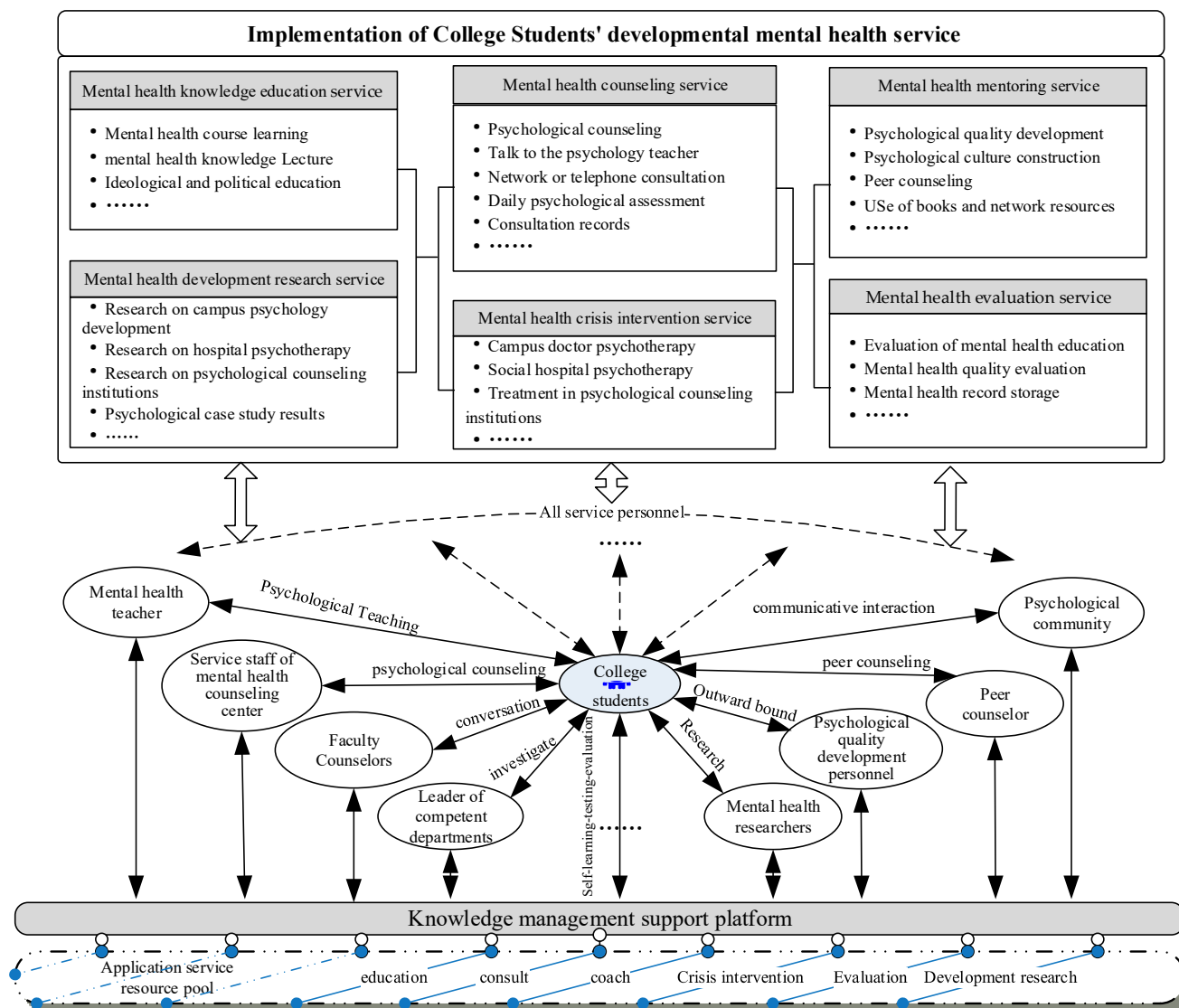
**Figure 4.** Technical system of college students' developmental mental health service model.

## 5. Service Process of College Students' Developmental Mental Health Based on Knowledge Management

The development and service subjects of college students' developmental mental health service model based on knowledge management can develop and implement distinctive service models for different colleges and different service objects by combining the types and characteristics of specific service needs and using the above service resource pool, knowledge management support platform, and relevant technical achievements.

The ultimate value of the application of college students' developmental mental health service process based on knowledge management is the right service object at the right time, the right service personnel provide the right resources and the right service measures, and obtain the ideal service effect. From the perspective of the service subject, that is, the direct user of service resources, this paper constructs a service process for college students' developmental mental health, as shown in Figure 5.

As can be seen from Figure 5, under the support of a knowledge management support platform and application service resource pool, college students' mental health service personnel can realize the timely acquisition, application, communication, and coordination of mental health service resources. For example, mental health teachers can quickly obtain knowledge education resources related to mental health knowledge education; mental health counselors can develop more effective mental health quality development activities in combination with the service resources provided; mental health researchers can also timely obtain various mental health-related resources through the knowledge management support platform, to comprehensively carry out the mental health research of college students.



**Figure 5.** Process of college students' developmental mental health service based on Knowledge Management.

Simultaneously, college students' mental health service personnel (including college students themselves) can also find out the implementation ways of their own mental health services in Figure 5. It mainly includes: (1) Mental health knowledge education service, which refers to providing basic mental health knowledge education for college students to master the necessary mental health knowledge; (2) Mental health counseling services, which refers to providing daily mental health counseling services for college students, including talking with psychological counseling teachers, telephone hotline consultation, network platform consultation, etc.; (3) Mental health counseling service, which refers to carrying out relevant mental health quality development activities to improve college students' ability to adapt to the environment, interpersonal communication and adjusts pressure; (4) Mental health evaluation service, which refers to the evaluation of college students' mental health quality, including regular evaluations and self-help evaluations. The evaluation methods include a mental health evaluation form and network self-help evaluation. It is the key way to investigate the effect of mental health services and understand college students' mental health quality in time; (5) Mental health crisis intervention, which refers to the necessary psychological treatment for students with psychological problems to improve their mental health; (6) Mental health development research service. This approach is an important method to promote the sustainable development of college students' mental

health services. Research on college students' mental health problems is important to develop better ways and tools for mental health services and provide better mental health services for college students.

## 6. Case Study

Freshmen are a special group within the university. They not only experience the intense college entrance examination but also face a series of adjustments after arriving at the university. These adjustments include changes in interpersonal communication, learning content, and methods, which contribute to many students' psychological issues, such as anxiety and compulsions. This study involved a sample of 2021 freshmen from Suzhou University who participated in carrying out the application and implementation of a new college students' developmental mental health service model.

### 6.1. Background

Suzhou University is in the process of actively constructing a college students' developmental mental health service model based on knowledge management. This service model integrates the previously discussed resource organization layer, resource form layer, and application resource layer from the perspective of service resource users and establishes a resource pool of college students' developmental mental health services. It integrates the pool of service resources by combining them with knowledge of students' mental health education, counseling, mentoring, and evaluation needs. Additionally, it includes crisis intervention and development research needs. It also includes the organization, personnel, processes, and technical systems of service resources in the pool. Moreover, it guides the organization in carrying out full dynamic continuous management and the learning of knowledge acquisition, storage, transformation, application, exchange, and innovation. The service content includes adaptation and development, learning pressure, interpersonal communication, emotional problems, ability development, career planning, mild and moderate psychological disorders, and psychological disease treatment.

### 6.2. Implementation Process

In order to further strengthen the mental health of their college freshmen, and accurately grasp these students' mental health status, Suzhou University carried out a mental health survey and evaluation for all newly enrolled freshmen and used this data to establish individual mental health files for each student. Using the "Chinese college students' mental health evaluation system", the dynamic collection, analysis, and preprocessing technology of service resources were constructed. The secondary college arranges the students into a single class for testing and expects a high standard in the testing, publicizing, and mobilization of the freshmen's mental health survey. Suzhou University had 4898 freshmen in 2021, of which 4892 participated in the test. The psychological evaluation results are shown in Table 1.

**Table 1.** Psychological evaluation results of the 2021 college freshmen.

Number of Students	Number of Participants	Number of Students with Apparent Psychological Problems	Number of Students Interviewed	Number of Students with Actual Psychological Problems
4898	4892	789	789	131

As shown in Table 1, 789 students with apparent psychological problems were assessed through the evaluation system. To further clarify whether these students had psychological problems, psychological counselors interviewed the students and conducted additional tests. These counselors finally determined that the number of students with actual psychological problems was 131. The students' psychological problems included depression, anxiety, social phobia, obsessive-compulsive disorder, Internet addiction, and suicidal ideation. A developmental mental health service model of "school, secondary college, class,

and dormitory” was then constructed aiming at addressing the psychological problems showcased by these 131 freshmen (as shown in Table 2).

**Table 2.** Implementation of the college students’ developmental mental health service model based on Knowledge Management.

Item	Personnel	Implementation Activities
School level	Staff of university mental health care center,	<ul style="list-style-type: none"> <li>➤ The staff will organize and implement the school-wide awareness drive of mental health knowledge and education activities.</li> <li>➤ Carry out offline individual consultations, group consultations, and online consultations through QQ groups, WeChat groups, and other such platforms.</li> <li>➤ Carry out study method counseling, personality counseling, life counseling, and career counseling.</li> <li>➤ Carry out mental health assessment of college students and provide feedback to secondary colleges.</li> <li>➤ Establish a referral mechanism for psychological crises and implement classified interventions and psychotherapy for students.</li> <li>➤ Research and evaluate the psychological health needs of college students and the counseling center’s service effectiveness.</li> </ul>
Secondary college	Counselor	<ul style="list-style-type: none"> <li>➤ According to the results of the initial psychological evaluation, the counselor will assist the school in conducting a more comprehensive psychological investigation and identifying early warning signs of impending crises.</li> <li>➤ Carry out “developmental counseling and consultation” focusing on the concept of “peer psychological assistance” for students with identified psychological problems.</li> <li>➤ Refer students with psychological problems to appropriate systems in a timely manner, and assist in follow-up counseling, tracking, and further referral.</li> </ul>
Class	Peer counselor	<ul style="list-style-type: none"> <li>➤ The psychological member (peer counselor) is responsible for the mental health education activities of the class.</li> <li>➤ The psychological member will carry out peer psychological counseling for classmates with psychological problems.</li> <li>➤ Observe, record, and report abnormal psychological phenomena among students in a timely manner.</li> <li>➤ Assist secondary colleges in the prevention and intervention of psychological crises.</li> </ul>
Dormitory	Dormitory head	<ul style="list-style-type: none"> <li>➤ The dormitory head will spread awareness on the concept of mental health in the dormitory to help students eliminate the mystery and ambiguity surrounding psychological counseling.</li> <li>➤ Discover dormitory students’ psychological crises quickly and conduct counseling or report to the counselor in a timely manner.</li> <li>➤ Support and cooperate with the work of the psychological member and report the “psychological status” of dormitory students to the psychological member and counselor every week.</li> </ul>

Simultaneously, university freshmen with psychological problems should make use of characteristic mental health services as well as corresponding psychological adjustment and crisis interventions (as shown in Table 3).

**Table 3.** Implementation of characteristic mental health services for freshmen.

Classification	Featured Services
Students with obsessive-compulsive disorder and suicidal ideation	Psychotherapy with the aim of achieving self-expression and self-healing through sand table making.
Students with anxiety and depression	Students are provided with a variety of sensory representations, including realistic preset scenarios. Multiple modules such as catharsis, relaxation, art counseling, and game decompression are integrated.
Students with social phobia and Internet addiction	Psychological counseling in group contexts is conducted. Game activities help promote the communication and thinking of team members, which in turn helps individuals grow.
Students with suicidal ideation	Through non-violent means and positive psychological guidance, students’ impulsive negative energy can be quickly and effectively vented.



### 6.3. Implementation Effect

Students experienced a significant subjective improvement in their psychological states after they received psychological assistance. This indicates the effectiveness of the model [75,76]. Additionally, school leaders, teachers, and students affirmed the effectiveness of the service model, highlighting that it uses the psychological characteristics and needs of students as its starting point [78] and forms a pattern of “full participation, full process integration, and all-round linkage”. In particular, we improved the peer mental health service network in the classes, strengthened the ideological and emotional exchanges and communication between college students, found, dredged, intervened in time with, and improved the mental health levels of the participating college students. We also found that after using this model the mental health service level was generally improved along with the cure rate of mental disorders.

Through the reviewed literature, we find that compared with the existing literature [67–70], the results of this case study show three advantages. (1) The service model integrates education, evaluation, consultation, counseling, intervention, tracking, and research, to create a full process and full coverage service system [65]. (2) This service model relies on a knowledge management method to build a support platform and service resource pool, so as to realize the networked and orderly operation of college students’ developmental mental health services. (3) The service model proved conducive to the seamless integration of psychological crisis intervention in hospitals, schools, secondary colleges, classes, and dormitories. This ensured that mental health services could enter classes and dormitories and made the service model more systematic [60], diversified [81], and emotional [9].

## 7. Conclusions

Currently, colleges and universities are faced with multiple development opportunities and challenges because of the increased prevalence and severity of psychological problems among college students. Due to the negative consequences associated with poor mental health among college students, increasing concerns have been expressed by society, the government, schools, parents, and students. Thus, the development of a mental health service “service model” is of utmost importance. Providing professional and flexible mental health services based on the needs of the service recipient, i.e., college students, informs the development of the mental health service model in this study.

This study proposes a mental health service model for college students, which is based on knowledge management. The service model is a theoretical framework condensed by the deeper use of knowledge management tools on the basis of the current college student service platform, which provides model support for guiding the follow-up services of college students’ mental health. Its construction provides the structure, system, operation mode, and method process for the relevant service platform, which has important theoretical value and provides a practical basis for guiding practice. The main contributions of this study are as follows. (1) From the perspective of service resource users, the mental health service resource pool is established to ensure that the full accumulation of mental health service resources is available to college students. (2) The three aspects of platform support, namely, basic activities of knowledge management, and the knowledge trigger system. This study constructed a knowledge management support platform of service model, realizes the effective connection between service resource pool and service subject, and ensures the effective transfer and rational application of service resources. (3) This study constructed an integrated technical system of college students’ developmental mental health service model from the aspects of overall planning technology of service model, aggregation, and management technology of service resources, construction, and management technology of service environment, and evaluation and analysis technology of the service environment. (4) From the perspective of direct users of service resources, this paper constructs the service process of college students’ developmental mental health based on knowledge management. Therefore, the advantages of this paper provide overall insights and useful guidelines for the managers and decision-makers for college students’

mental health services, not only in China but also all over the world. In this process, we strive to help colleges and universities and relevant organizations effectively optimize the mental health service model of college students.

However, this study has several limitations. The mental health developmental service model based on knowledge management constructed in this study is in the primary application stage, and still has many problems and challenges that need to be addressed. Moreover, only freshmen were included in the current case study, resulting in the need to track and investigate students at additional stages of their college careers. In the future, research should increase the application practice and pilot test of college students' developmental mental health service model based on knowledge management based on the model design. Furthermore, research should constantly supplement and improve the college students' developmental mental health service model in practice, to improve the applicability of the mental health service model. Moreover, the model can ensure that the mental health service can solve the mental health problems of college students more effectively.

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