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Perceived Challenges in Mental Health Education Management under the Online Environment: Evidence from University Students in Guangzhou

Gui Sijie[1], Muhamad Sholeh[2], Karwanto[3]
[1,2,3]Faculty of Education, Educational Management Study Program, Universitas Negeri Surabaya, Surabaya, Indonesia

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ABSTRACT

The online environment has reshaped how university students learn, interact, and experience psychological pressure, creating new demands for mental health education management in higher education. This study examined the perceived challenges in the management of mental health education among university students in Guangzhou in the online environment. A quantitative cross-sectional survey was conducted using a 30-item questionnaire covering six dimensions: Network Environment Impact, Screening and Early Warning, Collaborative Management, Teacher Capacity, Digital Management, and System Adaptability. Data were collected from 58 students at Guangzhou Huali College and analyzed using descriptive statistics and Cronbach's alpha. The findings showed a moderate overall level of perceived challenge (M = 3.267, SD = 0.456). Network Environment Impact was the highest-rated dimension (M = 3.468), followed by System Adaptability (M = 3.338) and Digital Management (M = 3.328), while Teacher Capacity recorded the lowest mean (M = 3.021). The instrument demonstrated high reliability (Cronbach's alpha = 0.919). The study indicates that student mental health education should be understood as an institutional governance issue in digitally mediated higher education and highlights the need to strengthen early warning systems, staff competence, and adaptive digital support mechanisms.

Corresponding Author:

Muhamad Sholeh
Department of Educational Management System, Universitas Negeri Surabaya
Email: muhamadsholeh@unesa.ac.id

1. INTRODUCTION

The rapid expansion of digital technologies has transformed higher education into an environment that is simultaneously more connected and more psychologically demanding. In this broader institutional response context, mental health education cannot be treated merely as a peripheral welfare activity; it must be regarded as an important component of

governance in the digital era [1]. University students now study, communicate, and construct social identity within a digital ecology shaped by social media, algorithmic exposure to information, online peer comparison, and continuous communication flows [2], [3]. While such developments have improved access to knowledge and broadened interaction, they have also intensified exposure to anxiety, emotional overload, misinformation, and problematic internet use [4]–[6], all of which may affect students' psychological well-being and academic adjustment [7]–[10].

The literature suggests that student mental health is influenced not only by individual vulnerability but also by the broader environment in which behavior is learned, reinforced, and regulated. Social learning theory posits that repeated exposure to symbolic models and social cues can shape emotional responses and behavioral tendencies [11]. This process becomes even more salient when students are immersed in digitally mediated interaction [12]. Ecological perspectives further emphasize that mental health outcomes emerge from interactions among individuals and multiple social systems, including educational institutions, peer networks, families, and technological environments [13], [14]. This broader ecological understanding is also consistent with institutional support structures in higher education, particularly those related to counseling accessibility and inclusive service provision [15]. These perspectives indicate that the challenge faced by universities lies not only in the prevalence of psychological distress among students but also in the adequacy of the institutional systems established to anticipate, detect, and respond to it under online conditions.

Recent studies have increasingly highlighted the relevance of digital support systems [16], user engagement with mental health applications [17], and online counseling and service accessibility [18], [19]. Additional evidence has also underlined the importance of educational responses, digital communication strategies, university-based mental health visibility [20], [21], and the broader effectiveness of university counseling services [22]. Nevertheless, much of the existing literature remains focused on prevalence, symptom patterns, internet addiction, or individual-level risk behavior rather than on how universities manage mental health education as an integrated institutional function. This imbalance is still visible even in broader reviews of student mental health determinants and intervention systems [3], [4]. This gap is analytically important because effective mental health education depends not only on counseling services but also on organizational adaptability, staff preparedness, digital infrastructure, screening capacity, and coordination among institutional actors. When these elements remain weak or fragmented, students' needs may be identified too late, handled inconsistently, or addressed only after risks have escalated.

This issue is particularly relevant in Guangzhou, where university students live and study in a highly networked urban environment shaped by rapid technological penetration and intensive digital engagement. In such a setting, the pressures associated with online learning and digitally mediated academic life, problematic internet use and related behavioral risks [6]–[8], and the broader consequences of internet literacy gaps and excessive online exposure [9] are likely to create new demands on university management systems. Recent digital public health evidence further suggests that institutions must respond more adaptively to changing student support needs [10]. Nevertheless, empirical evidence

on these demands remains limited, especially when approached from the perspective of students' perceptions of institutional readiness and management effectiveness. A more systematic understanding is therefore needed to identify which dimensions of mental health education management are perceived as most problematic and where institutional improvement should be prioritized.

Accordingly, this study examines the perceived challenges in mental health education management among university students in Guangzhou in the online environment, using six analytical dimensions: Network Environment Impact, Screening and Early Warning, Collaborative Management, Teacher Capacity, Digital Management, and System Adaptability. The study addresses the following questions:

a. What is the overall level of perceived challenge in mental health education management under the online environment?
b. Which dimensions are perceived by students as the most and least problematic?
c. What do these findings imply for institutional governance in higher education?

This study contributes in two ways. Theoretically, it shifts the discussion of student mental health from a narrow focus on symptoms and individual vulnerability to a broader, governance-oriented view of how universities respond to digitally mediated risks. In practice, it provides a diagnostic basis for identifying priority areas requiring institutional strengthening, especially in digital risk management, early warning capacity, staff readiness, and adaptive support systems.

2. METHOD

2.1 Research Design

This study employed a quantitative cross-sectional survey design to examine university students' perceptions of the challenges associated with mental health education management under the online environment. A quantitative design was considered appropriate because the study aimed to measure the relative prominence of multiple challenge dimensions in a structured and comparable manner rather than to generate narrative accounts or causal explanations. The cross-sectional approach enabled the study to capture students' perceptions at a specific point in time within a digitally mediated higher-education context.

2.2 Research Site and Participants

The study was conducted at Guangzhou Huali College, China. The respondents comprised 58 university students drawn from the institution. All respondents were enrolled in higher education and participated voluntarily in the survey. Since the study's purpose was diagnostic and exploratory-descriptive rather than inferentially generalizable, the sample was deemed sufficient to provide an initial institutional picture of how students perceived the management of mental health education in the online environment.

2.3 Sampling Technique

The study used convenience sampling, selecting respondents based on accessibility and willingness to complete the questionnaire during the data collection period. Although

this technique limits statistical generalization beyond the surveyed institution, it was appropriate for the present study because the primary aim was to obtain an initial empirical diagnosis of perceived institutional challenges in one university setting.

2.4 Instrument Development and Dimensions

The questionnaire was organised into six dimensions, with five items in each dimension, namely: Network Environment Impact (Items 1–5), Screening and Early Warning (Items 6–10), Collaborative Management (Items 11–15), Teacher Capacity (Items 16–20), Digital Management (Items 21–25), and System Adaptability (Items 26–30). To improve methodological clarity, the instrument's structure and its six analytical dimensions are illustrated in Figure 1.

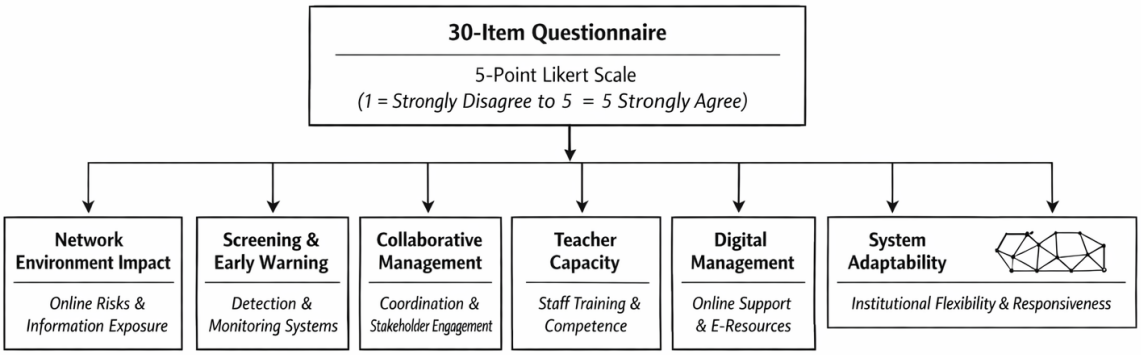

Figure 1. Instrument development framework showing the 30-item questionnaire, 5-point Likert scale, and six analytical dimensions used to assess perceived challenges in mental health education management under the online environment

Network Environment Impact refers to students' perceptions of how harmful online content, digital rumors, excessive exposure to information, and information cocoon effects may influence psychological well-being. Screening and Early Warning refers to the institutional ability to identify, monitor, and respond to early signs of student mental health problems. Collaborative management concerns the extent of coordination among university units and related stakeholders in supporting student mental health. Teacher Capacity refers to the adequacy, preparedness, and professional competence of teachers or relevant staff in managing student mental health issues, especially those related to the online environment. Digital Management addresses the availability of online support platforms, digital counseling tools, mental health resources, and related technological facilities. System Adaptability reflects the extent to which institutional priorities, management approaches, and resource allocation remain responsive to rapid changes in the online environment.

2.5 Instrument Adaptation

The questionnaire was adapted for use in a higher-education context. Although several conceptual elements were drawn from a broader educational governance and mental health management literature, the items were refined to fit the realities of university students living within intensive digital environments. The adaptation process focused on ensuring conceptual relevance to online exposure, early warning capacity, support coordination, staff

readiness, technological support, and institutional adaptability [4], [10]–[15]. In this study, the instrument was therefore positioned as a multidimensional tool for examining perceived governance challenges in university mental health education under online conditions.

2.6 Data Collection Procedure

The questionnaire was administered in a structured format to university students in Guangzhou Huali College. Respondents were asked to indicate the degree to which they agreed with each statement based on their experience and understanding of how mental health education was managed in their institutional environment. All items were presented in a standardized form, using the same response scale, to ensure comparability across items and dimensions.

2.7 Data Analysis

The data were analyzed using descriptive statistics and reliability testing. Mean scores and standard deviations were calculated for each dimension in order to identify the relative prominence of the six challenge domains. Item-level descriptive statistics were also examined to identify the instrument's strongest and weakest perceived issues.

To assess internal consistency, Cronbach's alpha was calculated for the overall instrument and for each dimension. Because the study was designed as a descriptive diagnostic survey, the analysis focused on mapping patterns of perceived institutional weakness rather than on testing causal relationships among variables.

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3. RESULTS

3.1 Respondent Profile

Table 1. Respondent Profile

Variable	Category	Frequency	Percentage (%)
Gender	Male	8	13.8
	Female	50	86.2
Institution	Guangzhou Huali College	58	100.0
Age	18	2	3.4
	20	2	3.4
	21	14	24.1
	22	18	31.0
	23	17	29.3
	24	3	5.2
	25	2	3.4

A total of 58 university students participated in this study, all of whom were drawn from Guangzhou Huali College. The sample was dominated by female respondents, with 50 (86.2%) females and 8 (13.8%) males. Most respondents were aged 21–23 years, with a mean age of 22.05 years (SD = 1.33). Specifically, 14 respondents (24.1%) were aged 21 years, 18 respondents (31.0%) were aged 22 years, and 17 respondents (29.3%) were aged 23 years. This profile indicates that the findings mainly reflect the perceptions of students in the typical undergraduate age group within a single higher-education institution in Guangzhou.

3.2 Descriptive Results by Dimension

The overall mean score of the instrument was 3.267 (SD = 0.456), indicating a moderate level of perceived challenge in mental health education management under the online environment. Among the six dimensions, Network Environment Impact recorded the highest mean score (M = 3.468, SD = 0.597), followed by System Adaptability (M = 3.338, SD = 0.608) and Digital Management (M = 3.328, SD = 0.563). Collaborative management had a mean score of 3.278 (SD = 0.585), while Screening and Early Warning had a mean score of 3.172 (SD = 0.577). The lowest mean score was found in Teacher Capacity (M = 3.021, SD = 0.596).

Table 2. Descriptive Statistics by Dimension

Dimension	Mean	SD	Rank
Network Environment Impact	3.468	0.597	1
System Adaptability	3.338	0.608	2
Digital Management	3.328	0.563	3
Collaborative Management	3.278	0.585	4
Screening and Early Warning	3.172	0.577	5
Teacher Capacity	3.021	0.596	6
Overall	**3.267**	**0.456**	—

3.3 Item-Level and Reliability Results

At the item level, the highest mean score was recorded for Q3 (M = 3.569, SD = 0.881), followed by Q4 (M = 3.534, SD = 0.959), Q5 (M = 3.526, SD = 0.889), Q22 (M = 3.517, SD = 0.778), and Q2 (M = 3.500, SD = 0.960). The lowest mean scores were found in Q17 (M = 2.897, SD = 0.831), Q18 (M = 2.897, SD = 0.912), Q20 (M = 2.966, SD = 0.725), Q19 (M = 3.034, SD = 0.898), and Q7 (M = 3.069, SD = 0.746).

To improve interpretability, the highest- and lowest-scoring items are presented together with brief content descriptions in Table 3.

Table 3. Highest- and Lowest-Scoring Questionnaire Items with Brief Content Descriptions

Category	Item	Mean	SD	Brief Content
Highest	Q3	3.569	0.881	Online rumors distort cognition and trigger psychological confusion.
	Q4	3.534	0.959	Students are prone to the information cocoon effect.
	Q5	3.526	0.889	Information cocoon aggravates paranoia and anxiety.
	Q22	3.517	0.778	Need for a professional platform or community for mental health teachers.
	Q2	3.500	0.960	Harmful online information can negatively affect emotions and personality.
Lowest	Q17	2.897	0.831	The full-time mental health teacher ratio does not meet standards.
	Q18	2.897	0.912	Dependence on part-time teachers
	Q20	2.966	0.725	Difficulty handling internet-triggered psychological crises
	Q19	3.034	0.898	Teachers lack foundational cyber psychology knowledge.
	Q7	3.069	0.746	Lack of scientific monitoring of online behavior

3.4 Reliability of the Instrument

The instrument demonstrated high internal consistency overall, with a Cronbach's alpha of 0.919. At the dimensional level, Cronbach's alpha coefficients ranged from 0.627 to 0.791, indicating acceptable to good reliability across the six dimensions, as shown in Table 4.

Table 4. Reliability of the Instrument

Dimension	Cronbach's Alpha
Network Environment Impact	0.778
Screening and Early Warning	0.748
Collaborative Management	0.627
Teacher Capacity	0.779
Digital Management	0.755
System Adaptability	0.791
Overall Instrument	**0.919**

4. Discussion

The findings indicate that mental health education management under the online environment should be understood not merely as a student welfare issue, but as a broader institutional governance challenge in higher education. The overall mean score of 3.267 suggests that students perceived the challenges at a moderate yet meaningful level, indicating that institutional systems are not entirely ineffective but remain insufficiently aligned with the psychological pressures generated by digitally mediated student life. This interpretation is consistent with broader evidence showing that student mental health in higher education is shaped not only by individual vulnerability, but also by how institutions organize support, intervention pathways, and service accessibility [23].

The prominence of Network Environment Impact as the highest-rated dimension suggests that students primarily associate current mental health education challenges with the disruptive influence of digital environments. Harmful content, online rumors, and information cocoon effects appear to be perceived not as marginal disturbances, but as psychologically significant features of contemporary student experience. The concentration of high-scoring items within this dimension further reinforces the view that the online environment itself has become a major source of mental-health-related pressure that universities must address. This finding is in line with previous work showing that university students increasingly experience psychological strain within digitally mediated environments and that online mental health responses must be designed around actual user needs and patterns of engagement [24].

The relatively high scores for System Adaptability and Digital Management indicate that institutional responses have not kept pace with the pace of change in the online environment. Students appear to recognize that universities are expected not only to provide conventional counseling support but also to develop responsive digital systems, accessible online resources, and management mechanisms capable of operating in rapidly evolving technological conditions. This suggests that digital transformation in education changes both the form of student vulnerability and the form of institutional responsibility. Similar

concerns have been identified in studies showing that students' attitudes towards internet-based mental health interventions are strongly influenced by accessibility, usability, and trust in the digital support system itself. At the same time, engagement with self-care applications also depends on how well platforms align with students' actual preferences and support expectations [25].

Although Collaborative Management and Screening and Early Warning were not the highest-scoring dimensions, their moderate values remain analytically important. These findings imply that universities may still face limitations in coordinating support across internal and external actors and in identifying psychological risks early. Where screening systems remain underdeveloped or collaboration is uneven, student needs may only be recognized after psychological pressures have intensified. The present findings, therefore, support the view that mental health education management should be built on preventive rather than merely reactive institutional logic. This interpretation is compatible with broader reviews that emphasize that effective higher-education mental health systems require layered intervention structures, early access pathways, and stronger alignment between institutional support mechanisms and students' well-being needs. From a governance perspective, it further suggests that student mental health should be institutionalized as a whole-university responsibility rather than confined to standalone support services [26], [27].

By contrast, Teacher Capacity received the lowest mean score, and the lowest-scoring items were concentrated in this dimension. Respondents perceived weaknesses in staffing adequacy, professional preparedness, cyber-psychology knowledge, and the ability of relevant personnel to respond to internet-triggered psychological issues. This finding suggests that the human resource base for mental health education remains underdeveloped relative to the scale of challenges students encounter online. Even where institutions recognize the importance of student mental health, implementation may remain constrained if personnel are insufficiently trained, structurally unsupported, or inadequately prepared for digitally mediated cases. This concern is reflected in research on inclusive counseling services, which shows that institutional effectiveness depends heavily on staff competence, service structure, and the ability to provide accessible, responsive support to diverse student populations [28].

Taken together, the findings support a multidimensional understanding of mental health education management in higher education. The challenge perceived by students does not arise from a single isolated weakness, but from the interaction among disruptive digital exposure, incomplete early-warning systems, uneven collaboration, limited staff preparedness, insufficient digital support, and incomplete institutional adaptation. Theoretically, this study contributes by reframing student mental health in the online era as a problem of institutional governance capacity rather than as a purely individual or clinical issue. Practically, the findings imply that universities need to strengthen digital mental health governance in an integrated manner by improving early detection, expanding professional development for staff, enhancing digital support infrastructure, and building more coordinated support networks across institutional actors [29]-[31]. This recommendation is supported by evidence on online university counseling, digitally mediated counseling

innovations such as avatar-assisted support, and user-centered intervention design for higher education students.

5. CONCLUSION

This study examined university students' perceptions of the challenges associated with the management of mental health education in the online environment in Guangzhou. The findings indicate that these challenges are perceived at a moderate but meaningful level, with Network Environment Impact emerging as the most prominent dimension, followed by System Adaptability and Digital Management, while Teacher Capacity was identified as the weakest area. These patterns suggest that the pressures generated by digitally mediated student life are not yet fully matched by institutional readiness in higher education.

More broadly, the study demonstrates that mental health education management should be understood as a multidimensional governance issue rather than a narrowly individual or clinical matter. Students' responses imply that harmful online exposure, limited early-warning capacity, fragmented support coordination, insufficient staff preparedness, and incomplete institutional adaptation interact in shaping how mental health education is experienced in practice. In this respect, the study contributes an institutional perspective to the discussion of student mental health in the digital era.

This study is limited by its single-institution setting and its reliance on perception-based survey data. Consequently, the findings should be interpreted as an initial diagnostic portrait rather than as a broadly generalizable evaluation. Even so, the study provides useful evidence for identifying priority areas where universities need to strengthen their mental health education management systems in online settings.

6. RECOMMENDATIONS

Universities should strengthen their mental health education systems by prioritizing digital-era risk management. This includes improving online early-warning mechanisms, expanding access to digital counseling resources, and developing more responsive systems to identify students exposed to harmful content, online rumors, and information cocoon effects. Institutional responses should move beyond conventional support models and become more adaptive to the realities of students' online environments.

Greater attention should also be directed to the professional capacity of personnel responsible for mental health education. The low score in the Teacher Capacity dimension indicates a need for additional staffing, targeted training, and greater competence in recognizing and responding to internet-related psychological issues. Universities should therefore invest in continuous professional development, particularly in digital mental health literacy, crisis response, online student engagement, and technology-mediated support practices.

At the organizational level, universities should improve cross-unit coordination to reduce fragmentation in mental health education management. Counseling units, academic advisors, student affairs offices, digital platform managers, and faculty members should operate through clearer referral pathways and more integrated support procedures. Such

coordination is essential if institutions intend to move from reactive case handling to preventive, sustainable mental health governance.

Future research should broaden the empirical base of this issue by involving multiple universities, more diverse respondent groups, and complementary institutional data such as policy documents, service records, or interviews with counselors and administrators. This would make it possible to compare perceived challenges across institutional settings and to assess more directly how governance structures, staffing arrangements, and digital infrastructures shape the effectiveness of mental health education management in higher education.

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