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Who is helping students? A qualitative analysis of task-shifting and on-campus mental health services in China's university settings

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ABSTRACT

The mental health of university students is a major concern worldwide. Current literature has highlighted workforce shortage as one of the main barriers for delivering mental health care in China and elsewhere. A common strategy to tackle this shortage involves engaging non-specialist health workers and professionals from non-medical backgrounds in mental health promotion within university settings. Yet, there remains limited understanding of how this approach operates in practice and its effectiveness in delivering essential on-campus services to students. This study contributes to narrowing this knowledge gap through the engagement with interdisciplinary mental health service providers (n = 141) at six universities in Shandong, China. We used focus group interviews to explore how task-shift practices operate in the Chinese university context and analyze the main barriers in the practitioners' delivery of mental health care practices. According to our analysis, (1) competing roles of non-health actors create a trust-privacy dilemma in the delivery of mental health service; (2) knowledge gap and workload issues become new barriers for effective mental health promotion; and (3) the lack of structured intersectoral collaboration creates barriers to establish effective mental health care networks to meet the needs of university students. These results highlight the importance of using a settings approach in designing and assessing mental health interventions based on task-shifting within the contexts of Chinese universities. The study also helps to map out the unique features of the workforce situation in the mental health support system of Chinese universities, offering researchers and practitioners insights on how to better localize their assessment and programming.

1. Introduction

The mental health of university students has become a major concern around the world. Globally, the number of university students with serious psychological and mental illnesses has risen significantly in recent years (Storrie et al., 2010). The prevalence of depression among Chinese university students was between 23.3% and 28.9% (Luo et al., 2021). In China, many university students experience poor mental health due to challenges such as high academic demands, interpersonal relationship troubles, family pressure, and worries related to wider social-economic uncertainty (Cvetkovski et al., 2012; Hamaideh, 2011). Mental disorders have become highly prevalent among over 40 million Chinese university students in recent years (Chen et al., 2020; Dong and Li, 2020; Hou et al., 2018; Li et al., 2020).

The scarcity of psychological intervention professionals exacerbates the severity of mental health issues in China. The 2020 WHO Atlas revealed a concerning disparity in the size of the mental health workforce between China and the global median. China's number of mental health workers per 100,000 population was reported at 8.60, significantly lower than the worldwide median of 13. Although China has

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improved in psychiatric human resources in the context of the World Health Organization Comprehensive Mental Health Action Plan (2015–2020) and its National Mental Health Plan (2015–2020), the shortage of skilled mental health professionals and the unequal distribution of mental health resource represent the main challenges facing the Chinese mental health system currently (Liu, J et al., 2011; Yue et al., 2022).

In contrast to the shortage of mental health resources, there is a notable difference in the sustained attention given by the Chinese government to the mental health of university students. Since 2005, the Education Ministry of China has issued many national directives, urging universities to strengthen and enhance mental health education and counseling services for their students (State Council of China, 2001). These official documents have provided guidance to Chinese universities, motivating them to implement various forms of mental health support throughout their campuses (Ning et al., 2022). Despite the institutionalization of mental health services like education and counseling within China's university system, recent research reveals a phenomenon worth noting: Only a low proportion of students seek help from on-campus support in the face of mental health problems (Huang et al., 2016; Liu, F et al., 2017).

Previous research has shed light on the mental health status, health literacy, and help-seeking behaviors of university students. These studies have highlighted various obstacles that deter students from seeking professional mental health support, including self-reliance, stigma, limited mental health literacy, resource availability, as well as privacy concerns (Dunley and Papadopoulos, 2019; Lui et al., 2022; Ning et al., 2022; Yu et al., 2022). Nevertheless, universities operate in a unique and crucial context in promoting mental health and providing interventions for students. In the university context, the specific arrangement of mental health promotion and the providers responsible for it will directly influence students' willingness to use the services as well as their satisfaction levels with those services. Existing literature predominantly focuses on students' perspectives. There is limited understanding regarding the delivery aspects of on-campus services and the underlying reasons why the current mental health promotion efforts of Chinese universities have failed to address the barrier of help-seeking.

To strengthen the effectiveness of mental health promotion for university students, it is imperative to gather data from the institutional perspective and examine how current mental health service delivery is operationalized in the frontline. In this paper, we use a qualitative approach to analyze the experiences and perspectives of mental health service providers in the university context of Shandong province. We introduce four types of service providers to illustrate the system of mental health service delivery in the Chinese university setting. By examining the association between the service providers' institutional positions, discipline, and training background, and the advantages and disadvantages associated with each type of service provider in mental health care, we summarized the main challenges in China's university mental health service provision. This paper helps to map out the unique features of the workforce situation in the mental health support system of Chinese universities, offering researchers and practitioners insight to better tailor their assessment and programming.

2. Background

2.1. Institutional barrier and workforce shortage of mental health promotion

Reluctance to seek mental health services and support is common among people experiencing mental health challenges across the globe (Marcus Arnaez et al., 2020; Lui et al., 2022; Shea et al., 2019). Prior research has identified multiple barriers hindering students' willingness to seek help within university settings. These barriers exist at both the personal and the institutional levels. Personal barriers encompass students' attitudes, beliefs, and perceptions regarding self-reliance, the efficacy of mental health services, and the necessity of utilizing professional services over self-management (Hyseni et al., 2023; Jennings et al., 2015). Additionally, skepticism regarding the benefits of professional help and concerns about privacy breaches further deter students from engaging with counseling services (Dunley and Papadopoulos, 2019; Vidourek et al., 2014).

In addition to personal perceptions and preferences, institutional factors are of significant importance in explaining students' hesitancy to seek help. Institutional barriers refer to the hurdles encountered in accessing mental health and related services offered by educational institutions (Dunley and Papadopoulos, 2019). Within the university environment, the availability of accessible mental health support directly impacts students' willingness to seek help. Limited services on campus or insufficient insurance coverage can discourage students from seeking assistance. Additionally, competing priorities within the institution pose a significant barrier to mental health promotion and care provision. Universities primarily operate as educational facilities, and their institutional ethos, administrative leadership, school norms, and policies are oriented toward academic success. When university personnel are assigned additional roles to provide mental health care to students, they are faced with competing demands for time and resources that often divert their attention from initiatives aimed at improving students' mental health well-being (Forman et al., 2009; Langley et al., 2010; MacDonald et al., 2022).

While many universities strive to offer accessible on-campus mental health services such as counseling for their students, a notable challenge lies in establishing financially feasible ways to deliver effective mental health services, which are greatly hindered by constraints in human resources. Compared to high-income countries, the shortage of mental health workers and the treatment gap are the main challenges to improving mental health services in low-and middle-income countries (Babatunde et al., 2021; Sarikhani et al., 2021). Within the university context, financial constraints often exacerbate the challenge of workforce shortages. Previous research has indicated that it is increasingly difficult to secure adequate funding and staff resources to adequately support students, especially considering the growing prevalence of mental health issues (MacDonald et al., 2022). Furthermore, many staff positions are on a contract basis, leading to high turnover rates. This instability makes it difficult for staff and faculty to develop long-term programs aimed at addressing mental illness (MacDonald et al., 2022).

To tackle this human resource crisis, the task-shifting approach seems to be a practical solution recommended for countries and organizations with limited resources (Hyseni et al., 2023). Task-shifting involves reallocating tasks, usually from highly trained individuals to those with less advanced training, to optimize resource utilization. This approach enables all providers to operate at the highest level of their professional scope, maximizing efficiency and effectiveness (Purgato et al., 2020). Research indicates that involving a diverse range of workers with appropriate training and supervision can facilitate the expansion of mental health care services (Kakuma et al., 2011). In educational settings, evidence shows that task-shifting solutions and the engagement of non-health workers, such as teachers and school administrators, have been applied in the design and implementation of mental health promotion projects (Forman et al., 2009). However, while much of the literature identifies workforce shortage as a main barrier for mental health promotion and suggest task-shifting as a promising solution, there is a lack of comprehensive understanding on its implementation within university settings and its ability to effectively surmount the obstacles hindering students from accessing professional mental health support.

2.2. Task-shifting in China's university mental health promotion

In China, there is increasing evidence of the involvement of non-specialist health workers and non-medical professionals in the implementation of mental health promotion (Liu, F et al., 2011). More

specifically, in the Chinese higher-education system, the task-shifting approach is widely used in a layered network system to improve the mental health of university students. This popular layered system is called the four-level network, and it is promoted by the Education Ministry of China. As highlighted in the national policy document *Guiding outline of mental health education for college students* (2018):

> [Universities should] improve the psychological crisis prevention and rapid response mechanism, establish the school, department, class, dormitory "four-level" early warning, prevention, and control network, improve the psychological crisis intervention work plan, do a good job of tracking services for psychological crisis students, pay attention to special periods and different seasons of psychological crisis prevention and intervention work, …

Under the guidance of this official document, despite the shortage of mental health professionals, universities have adopted a task-shifting strategy by mobilizing advisors, faculty, health workers, and students to engage with various types of mental health services across their campuses. In addition to establishing on-campus counseling centers and employing trained healthcare personnel, Chinese universities rely on various types of non-medical professionals (advisors, peer students, and faculty with social work and psychology knowledge) to provide mental health services such as detecting students with mental health needs, promoting mental health knowledge, providing mental health counseling, and transferring complex cases. Despite this growing practice of task-shifting in universities, there is a paucity of research on how non-medical personnels and non-mental health specialists' function within the new system of mental health care at the university setting. The lack of evaluation on the effectiveness, and advantages/disadvantages of adopting task-shifting in mental health care makes it difficult to explain why this approach may or may not succeed in meeting the mental health needs of students, including the mitigation of students' reluctance towards using on-campus services. To address this gap in knowledge, this article introduces a settings approach to investigate the engagement of non-health actors in China's university mental health promotion.

The settings approach is well established in the field of health promotion. Settings can be understood as systems, interconnected to other settings, with complex interrelationships between component parts, stakeholders and issues (Dooris, 2006; Dooris et al., 2014). A university setting is widely viewed as a context within which students and staff live aspects of their daily lives and in which others (families, external services, wider community) interact (Conley et al., 2015). A growing number of studies apply the settings approach to explore university-based health intervention practices globally, but mental health programming in Chinese universities is rarely studied with this perspective. As indicated in existing literature (Dooris et al., 2014), when studying special health settings such as universities, it is important to understand how universities as organizations operate and to find ways to align health with the organization's core business and initiate and/or manage change. Complementary to the settings approach is the social ecological perspective (Conley et al., 2015; Dooris, 2006; Dooris et al., 2014), which enables us to examine the challenges and constraints experienced by mental health service providers at multiple interconnected levels – personal, interpersonal, organizational, and societal.

Inspired by the settings approach, we propose a relational analysis to understand how task-shifting policies and multiple actors' mental health promotion activities are influenced by contextual variables within the studied setting, either empowering or constraining their efforts. Firstly, health promotion projects should consider human resources as an infrastructure variable within the studied setting, as the effective delivery of mental health services is significantly impacted by constraints in human resources. Secondly, workforce shortage is just one of the many factors that contribute to the complexity of a given context. The assessment of this solution should also adopt a social-ecological perspective. This perspective considers the complex interactions among environmental, organizational, and personal factors (Dooris et al., 2014). Examining the connection between workforce issues and other institutional factors therefore provides an opportunity for us to reconsider whether there are concealed structural factors or underlying mechanisms influencing the implementation of mental health promotion, thereby hindering the effectiveness of task-shifting in meeting students' mental health needs.

In this paper, we examine the phenomenon of task-shifting in mental health care provided in university settings in China. We aim to answer two questions: (1) What are the primary challenges encountered by mental health service providers in the current task-shifting approach? (2) What are the structural factors and mechanisms that influence the effectiveness of task-shifting in meeting the mental health care needs of students in universities? In this context, instead of merely attributing workforce shortages as a simplistic institutional obstacle and viewing task-shifting as a straightforward solution, we provide a nuanced exploration of the implementation of task-shifting. This detailed examination underscores the critical importance of understanding the intricacies of human resource dynamics within organizational frameworks where mental health care might not be the primary focus.

3. Methods

This sub study is part of a large interdisciplinary implementation research with the aim to reduce mental illness stigma and promote the mental health of university students in City J, China (Fung et al., 2021; Wong et al., 2021). Phase One of this large research focused on the contextual assessment of university students' mental health needs and access to mental health care. Results of Phase One were used to inform the refinement of the ACE-LYNX intervention, an evidence-based intervention to promote mental health literacy, reduce stigma of mental illness and build capacity among mental health service providers and students in university settings. In Phase One, we engaged 141 service providers from six collaborating universities, including: 89 advisors, 33 peer supporters, 6 psychological counselors, 5 psychology faculty, and 8 non-psychology faculty. Data collection was conducted between May and September of 2019. Eligibility criteria were individuals who self-identified as 18 years of age or older, and providing health, social, or supportive services to university students. Audio recordings of the focus groups were transcribed verbatim in Chinese and translated into English. We used NVivo for data management. In this paper, we draw on data from our focus groups with service providers to explore the mental health workforce as an infrastructure variable within the university settings, that is, the integration of mental health service providers within the organizational context of China's higher education system. We also examine the complex dynamics and relationship between institutions, disciplines, professional training, and position specific roles in mental health provision. As well we identify the structural constraints within the socio-environmental contexts that influence frontline mental health promotion.

The theoretical approach underpinning our data analysis process is critical realism, which highlights the interconnections between structure and agency and draws attention to contexts and social relationships as generative mechanisms that influence outcomes (Connelly, 2001). We used it to understand the current workforce situation in China's university context and rethink how the engagement of various mental health service providers was shaped by certain agent-agent and agent-structure relations in the university setting. The critical realist approach we used emphasizes the identification of patterns regarding how mechanisms (M) are activated in contexts (C) to generate outcomes (O) (Eastwood et al., 2018; Pawson and Tilley, 1997; Sturgiss and Clark, 2020). We applied the approach of CMO in our coding process to extract information, identify themes and construct concepts to address our research questions. More specifically, we employed these methods to help identify empirical evidence of how task-shifting solutions operate in university settings (Context), produce facilitators or challenges for delivering mental health support to students (Outcomes), and the

reasons why it cannot fully address students' demands (Mechanisms).

4. Results

The university setting is widely considered a complex context involving students, staff's daily work, and their interaction with other actors such as families, external services, and the wider community (Dooris et al., 2014). When mental health is embedded within this context, it creates a distinctive networked supporting system made up of multiple interconnected actors including counselors, peer supporters, student organizations, social workers, therapists, faculty, etc. In this network, the most important type of service provider is the advisor (Fu Dao Yuan in Chinese), which is a unique institutional position in China's higher education. Fu Dao Yuan refers to a special staff member in each department, who oversees and is responsible for several "classes," covering a full spectrum of responsibilities, from students' moral education to their day-to-day living, career advising, and mental health promotion (Liu and Lin, 2016). As described in previous literature, an advisor provides a one-stop service for most issues students may encounter. Advisors play a critical role in the mental health support network. They are responsible for detecting students in need of mental health support, providing students with psychological and emotional support, as well as taking charge of organizing activities that promote mental health literacy. Peer supporters are also important actors in the mental health support system of Chinese universities. Peer supporters in universities offer students informal support that promotes help-seeking practices (Byrom, 2018). In the Chinese context, universities and departments set up volunteer positions and formal positions, such as "mental health liaison person" or "mental health ambassador," to recruit students to join the four-level network and provide mental health support to their peer cohorts. In addition, within the campus, faculty members are also engaged in the delivery of mental health support. Our data shows that faculty with academic background in psychology, social work, or even sociology are usually the service providers of mental health education and individual consultation. In our sampled universities, the majority of service providers are non-health professionals (advisors, faculty) and students. Although relying on non-health professionals to provide mental health support is a pragmatic solution in developing countries bothered by mental health workforce shortage (Kakuma et al., 2011), there are still barriers for students to access care. Our analysis identified three context-mechanism-outcome (CMO) thematic configurations. First, students may still feel uncomfortable seeking help from non-medical actors due to privacy concerns and doubts about their competence (Ning et al., 2022; Yu et al., 2022). Second, although task-shifting is supposed to address the mental health workforce shortage and increase on-campus service accessibility, knowledge gaps and workload problems are new barriers for providing students with high-quality mental health services. Third, without intersectional collaboration, the involvement of actors in different silos fails to transition into an effective coordinated support network. Within the perspectives of critical realism, outcomes can be seen as products of generative mechanisms operating within contextual conditions. In this section, we present the underlying mechanisms that generate facilitators and barriers to the effective integration of the four-level network into the student mental health promotion in university settings.

4.1. CMO1 – Conflicting interest and the trust-privacy dilemma

Compared to medical professionals, the advantages and disadvantages of non-medical actor's involvement are deeply rooted in the organizational environment. When mobilizing non-medical professionals to participate in mental health promotion activities for university students, it is essential to consider their roles, resources, motivations assigned with these actors, and assess how these competing factors may affect the delivery of mental health interventions.

Mobilizing non-medical professionals such as advisors, faculty members, and peer supporters to deter students' mental health demand is reasonable in the context of China's universities. Different from medical professionals in medical institutions, an important contextual fact is that these non-medical actors usually share the same working and studying context as the students, and most of them have already developed close relationships with their students. This familiarity constitutes a facilitator for their service provision. As explained by many interviewees, students usually go to the advisors for suggestions and advice to address their psychological problems:

> Cultivating a good relationship with students is helpful for psychological counseling work. Many students take the initiative to ask for our help when they encounter problems, and we can provide help for them.

In China, advisors are a special type of non-medical professional in a university's mental health support network. They have the advantage of establishing close relationships through ongoing interactions with students. These close relationships, deeply embedded in the organizational environment, make it easier for them to identify the students' underlying needs (positive outcome). As an interviewee told us:

> … during their time in college, students have the closest connection with advisors. Whenever they feel lost or uncertain about anything, they seek guidance from counselors. They discuss various topics, and sometimes they might perceive these issues as psychological problems, even though we haven't specifically categorized them as such. It's more about their confusion, which can last for a significant period of time. Through continuous communication and interaction with them, we gradually work towards resolving their concerns.

The logic also applies to faculty members. When students' mental health issues are relevant to their study or work, they also seek help from their familiar faculty members.

Although the trust and closeness between students and their advisors or faculty members is beneficial for mental health services, they may also constitute a barrier at the same time. According to our interview data, students may refuse to seek help from these service providers as they have a privacy concern or do not trust their advisors.

> There are some things students don't want to share with their advisors. Why? I personally guess that the advisors, in addition to being able to provide psychological counseling, also hold decision-making power on other issues. Their work covers every dimension of students' on-campus life, such as whether a student would be selected as a student cadre, or whether the student can join the Communist Party. If the students' psychological problems are revealed to their advisors, there could be negative consequences for them. The advisors may think, due to the students' mental health conditions, they are not suitable for certain positions or work. However, there would be fewer worries if the students seek help from social workers or professional psychological counselors.

According to this interviewee, while the institutionalized position makes it easier for advisors to build a close connection with students, this closeness may also be a barrier for students to seek mental health support from their advisors. Some students refuse to disclose their mental health challenges or needs as they worry stigma and discrimination of mental illness would negatively impact their access to academic opportunities in the university setting.

It is worth noting that, compared with disclosing their mental health issues to advisors, sometimes students will take peer supporters as an alternative choice. In our interviews, we find that some peer supporters have strong motivation to engage with the supporting network.

> We live in a dorm, so everybody knows each other. When we are faced with a problem, we come together to talk about it. They told us to contact our advisors if we have trouble, but I think it is too awkward. It would be embarrassing to talk about this with your

advisor. If you want to talk, why not talk with your dorm mentors? The head of the dormitory can handle this situation. I feel it is better than going to the advisors.

Similar to the situation with advisors, the close social distance between peer supporters and their cohort classmates may become a barrier for peer supporting. Due to privacy concerns, some students choose to reject peer support as they do not want to share their mental health issues with classmates.

The organization assigns advisors with the role to manage students' school life and be the distributor for many on-campus resources. It is these special organizational arrangements that empower advisors to build close connections with students. It is also these organizational arrangements that unavoidably create the power relations, whereby students worry that the disclosure of their mental health issue may cause negative consequences. When advisors, with their implicit power and advantages, are assigned to their institutional position and mobilized into the mental health network, their power also automatically comes into play. Similar contexts also apply to peer supporters and faculty members. Thus, the first CMO that we have identified indicates that designers of task-shifting aim to address mental health workforce shortages by tapping into the close connections between students and their advisors, faculty and peer mentors. However, in the process of task-shifting, the conflicting roles of these service providers becomes a double-edged sword. Although close interpersonal connections are a valuable mental health resource (positive outcome), they are also barriers for students to access mental health support on campus due to privacy concerns and stigma, creating (unpredicted outcome).

4.2. CMO2 - Competing priorities, knowledge gap, and workload pressure

Mobilizing non-medical professionals to provide mental health support is considered a practical solution to address shortfalls of medical professionals in mental health care (Kakuma et al., 2011). However, competing workplace priorities can significantly impede task-shifting in mental health care by diverting attention, resources, and energy away from the implementation and effectiveness of task-shifting initiatives. When engaged actors have multiple pressing concerns or objectives, they may not allocate sufficient time, funding, or focus on mental health promotion (Moon and Ballard, 2022). In this study, this challenge has been observed in the task-shifting practice in university settings in China. An important contextual factor is that non-medical actors have inadequate skill and knowledge which negatively affects the quality of mental health services. Some advisors and faculty hold psychological counselor licenses and are eligible to provide formal consultation service. However, most of them have not received professional training in psychological and mental health intervention. Ideally, with brief training and appropriate supervision by mental health specialists, non-health professionals can deliver certain types of service such as detection and treatment (Kakuma et al., 2011). Although universities have set up training programs to provide advisors and faculty members with necessary mental health knowledge, the lack of professional skills to meet students' needs is still one of the main challenges, as described by an advisor:

I feel it is one of our issues, because many teachers including myself are not professional consultants or psychologists. We lack the skills and methods to differentiate different students' different circumstances and provide relevant solutions. I think it is important to provide us with some foundational mental health knowledge.

In the absence of professional mental health training, these non-professional service providers typically rely on their prior student-work experience to offer informal consultation to students in need. Similarly, faculty without mental health training or knowledge also choose to refer students to seek help from professional counselors, and they focus on offering advice on career planning or academic performance, which indirectly helps to address students' anxiety and stress about their academic success.

We find that, although most interviewees have the passion to be involved in the current mental health support system of their universities, they reported that their high workload hinders their engagement in mental health services. Non-medical professionals find it is challenging to balance the time they spend on their original organizational duty and the new added workload of mental health service support. For example, since advisors must attend to all aspects of students' on-campus needs and demands, and mental health care is just one of their many responsibilities, many advisors feel that they do not have enough time to receive the necessary mental health training required to provide high-quality mental health care to students.

Faculty members often find themselves stretched thin, grappling with competing demands while attempting to navigate the delicate balance between their professional responsibilities and the engagement of the university's mental health project. As explained by a psychology professor:

Sometimes the university has staff shortage issues. I will be deployed temporarily to help the mental health center in psychological counseling. But this temporary deployment often leads to a problem. I would receive many calls. If the calls come from students, it is fine. If the calls come from [school or department] leaders who have many urgent assignments, I feel that it will seriously affect the quality of our psychological consultation as the process keeps being interrupted. Because it is a temporary deployment, it does not allow comprehensive planning or scheduling of these consultation sessions.

The university where this interviewee works established its student Mental Health Education and Counseling Center in 2000. This center is responsible not only for mental health education but also for providing students with psychological counseling and making professional assessments on whether a student should be referred to external mental health agencies. However, the shortage of personnel is also a major challenge in the operation of this center. This is why the interviewed faculty member has been temporarily assigned to assist the mental health center. This issue was also mentioned by another interviewed consultant:

At present, there are too few mental health professionals in our university, which may be a common problem faced by all Chinese universities. The Ministry of Education guideline on the mental health consultant-student ratio is 1:4000. Based on the actual number of students in our university, we need at least ten professional consultants, but we only have two now.

The shortage of staff was a key concern expressed by almost all interviewed medical professionals. They indicated that they could hardly meet the consultation demand of students. Another interviewee told us that they could not publicize the news that their school had recently established a mental-health center due to the concern that they could not handle that large number of service users. Student demands worsen during the exam weeks when students are more anxious about their academic performance. To address this gap, non-health actors need to take on additional workloads to deliver mental health services to students.

As reflected in the above interviewee's sharing, non-medical service providers also had to prioritize their workplace demands based on the implicit power relations embedded in each task, i.e., demands from their superiors versus students with mental health challenges. Without structured incentive mechanisms, is it challenging for these service providers to address work related pressure, as explained by an advisor,

Students might feel like they are going through a rough time and decide to come and have a chat with their teachers. However, sometimes when they enter the room, they hesitate and say, "It's

nothing, I'll leave." They may feel that the teacher is busy with many other people and today is not a good time to seek support. They postpone it to the next day, and if they keep delaying, they may eventually give up and not seek help at all. The reality is that we are dealing with many students, and it becomes challenging to provide them with mental health services.

Although task-shifting is expected to address labor shortages, if organizations implement this measure without overall planning, coordination, and arrangements to address workload priorities and provide institutional incentives, non-medical actors may compromise the quality of their work as their workload is increased to undertake mental health support work. In this case, the issue of competing priorities at both the organizational and individual levels will undoubtedly become a negative mechanism that creates work pressure and limits service quality (negative outcome).

4.3. CMO3 - The lack of intersectoral collaboration and coordination

The last CMO configuration extends beyond the individual level and pertains to the lack of intersectoral collaboration. In addition to the relationship between service providers and their complex organizational roles, intersectional interaction represents another significant mechanism that influences the effectiveness of the current workforce strategy. Our data reveals a lack of mechanism to promote intersectional collaboration within the existing four-level network. The current system lacks institutional arrangements that facilitate collaboration among different types of service providers and various organizational components. As reflected in the focus group data, the task-shifting approach motivated the advisors, faculty, and students to participate in the four-level network. However, non-medical service providers who had been assigned with the task of providing students with mental health support expressed their uncertainty in assisting students due to the absence of unified coordination and institutionalized channels for cooperation. This concern was mentioned by several interviewees:

> It seems that we do not have a clear direction on how to proceed with this matter, which is the first step. Additionally, I am unsure about who I need to approach, or which relevant mechanisms to follow, as there is no clear framework in place.

> I feel that the current system may not be very well-established. For example, when we are teaching or acting as advisors, we often come across situations where individuals require the assistance of professional counseling or therapy. All we can do is suggest that they seek help, but we have no way of following up to see if they can access those services. Whether it's the counselor or the school's psychological counseling center, it seems that there is a lack of a solid mechanism in place. We can only offer recommendations, but we cannot know whether they seek help or receive effective follow-up support.

> … a significant portion of a students' difficulties may stem from a particular issue. If we can address that specific problem, it may resolve the student's overall challenges. However, solving such a problem often requires the collaboration of multiple departments to negotiate and find a solution. … In my opinion, when it comes to psychological issues, it would be beneficial for all departments to work together in a coordinated manner to help address and resolve.

This does not mean that service providers have no communication with each other. We find peer students and faculty members will report to students. Also, when advisors recognize that students are experiencing severe mental health issues, their course of action usually involves reporting the situation to higher-level administration and recommending that students seek professional assistance, as explained by an advisor:

> In terms of staffing, we have strict requirements for the class psychological committee members, class monitors, and student union representatives. If any classmates in the class have recently exhibited serious behavioral issues, it is mandatory to report them promptly.

In university settings, different actors possess different resources, skills, and knowledge (context). To address the shortage of mental health specialists, intersectional collaboration is an important mechanism needed to channel the engagement of non-health professionals into the development of effective mental health support (positive outcome). We have not observed any organizational arrangements to leverage their complementary strengths. Without institutional arrangements to facilitate such collaboration, the effectiveness of involving advisors, peer supporters, and faculty members will be compromised.

5. Discussion

According to our analysis, while the recruitment of mental health counselors has already been put on the agenda, most service providers in the six universities are non-health professionals (advisors, faculty) and students. Mobilizing non-health professionals within the university system constitutes the uniqueness of the mental health care system in university settings in China. While integrating non-health professionals to provide mental health support is a practical solution in countries and organizations facing a shortage in the mental health workforce (Kakuma et al., 2011), it would be erroneous to assume that this approach alone can effectively address all barriers. Instead, evaluating this solution requires a comprehensive understanding of the interrelationships, interactions, and synergies within and between settings, considering various population groups, system components, and health issues (Dooris, 2006). Any analysis must recognize that certain arrangements may interact with other contextual factors and potentially create new barriers that affect the efficacy of mental health interventions.

Although Chinese universities have developed a networked supporting system to engage actors, who have not been trained in mental health or medical services, in the delivery of mental health services, the effectiveness of this model is limited to detecting mental health problems experienced by students and promoting mental health knowledge. Since advisors, peer supporters, and faculty members usually have close connections with students, they are in a unique position to observe students' emotional and psychological conditions in the classroom or dorms, but these opportunities also raise concerns among students regarding privacy and confidentiality.

Fear of breached confidentiality and loss of privacy is the key concern and one of the most widely identified barriers to students seeking mental health services. Students are particularly concerned as to whether their mental health status would have a negative impact on their academic record or employment opportunities (Kam et al., 2023; Vidourek et al., 2014). Existing research categorizes this fear as a subjective internal response and considers stigma reduction as the primary solution (Li et al., 2018; Lui et al., 2022). However, our study indicates that privacy concerns are associated with institutional structures and power relations embedded in the diverse roles of different types of service providers. Certain types of workforce arrangements function as institutional mechanisms that sustain students' privacy concerns. As demonstrated in CMO 1, when service providers take multiple roles and hold unequal power in relation to students in university settings, it is logical for students to worry about the potential disclosure of their mental health status and the possibility of being treated inequitably.

In the second CMO configuration, we show that in university settings where faculty and staff have heavy non-health duties such as research, teaching, and administration work, strategies and mechanisms to reduce the burden or demands of mental health caregiving must be considered. Existing literature on school-based intervention shows that competing responsibilities are identified as a main barrier for school-employed clinicians who have a high likelihood of being pulled away from other

school responsibilities or crises (Langley et al., 2010). In the context of Chinese universities, non-health service providers encounter more severe challenges of competing responsibilities compared to clinicians. While task-shifting is implemented as a solution to tackle the inadequate mental health resources, policymakers and implementers need to consider the provision of incentives and redefine the role and responsibilities of non-health service providers to alleviate unrealistic expectations and over-demanding workloads.

The third CMO configuration refers to the lack of intersectoral collaboration. Without institutional effort to promote collaboration among various actors and sectors within the organization, the advantages of interdisciplinary knowledge and professional skills among different non-medical service providers are not effectively coordinated in mental health promotion in university settings. Insufficient collaboration between academic counseling, university health services, and academic skills support hinders students' ability to access appropriate services during mental health crises (Dunley and Papadopoulos, 2019; Markoulakis and Kirsh, 2013; Storrie et al., 2010). Some research suggests that the lack of collaboration may stem from the educators' reluctance to buy in, or from a lack of support from university administration' (Langley et al., 2010). In our study, both faculty and advisors are highly motivated to promote mental health care, and school administration also emphasizes mental health. What seems to be missing is a structured plan with well-defined roles and institutionalized pathways to facilitate collaboration and resource allocation. It is worth noting that these three mechanisms do not operate in isolation. In practice, they interact and reinforce the impact of each other. The multifunctionality of university organizations inevitably imposes competing responsibilities, which sustains students' privacy concerns and produces workload pressure. Without institutionalized intersectional collaboration, capacity building and adequate resource allocation, the current four-level system primarily focuses on detection, which may be interpreted by students as surveillance, worsening their privacy concerns. This complexity underscores the importance of viewing university settings as an ecosystem, emphasizing the interconnections of the contexts and mechanisms involved (Dooris, 2006).

To help explain the challenges and constraints experienced by mental health care providers in delivering effective services in Chinese universities, our team has also applied the social ecological perspective to demonstrate that mental health care is influenced by complex interconnected factors and contexts at the individual, organizational, community, and societal levels. In using the social ecological framework, we recognized a number of limitations of this paper. Since we did not engage university administrators and policymakers in the Phase One contextual assessment, we were not able to gain in-depth insights on the logic and mechanisms underpinning the task-shifting directives at the decision-making levels within universities and government ministries. Furthermore, we engaged mental health service providers in six universities in a tier-two city in China. The results identified in this paper may not be relevant to universities in tier-one cities or smaller cities in China. The education and health systems in other provinces, especially those with different mental health resources or different policy priorities, may support university mental health promotion in different ways. Our aim is not to generalize our findings to represent the entire landscape of university student mental health in China, as the qualitative data collected from Shandong reflects a complex interplay of local contextual factors and social dynamics. Qualitative research, when carefully detailed, could be used to provide thoughtful and situated insights to guide practice, policy, and future research (Drisko, 2024). As indicated in the Methods Section of this paper, insights and knowledge generated in the contextual assessment in Phase One have been used to inform the development of Mental Health 101, a self-directed e-learning module on mental health literacy and stigma reduction among service providers and students. The results have also been used to refine ACE-LYNX, an evidence-based intervention to increase psychological flexibility, reduce stigma and promote mental health resilience.

The implementation processes and expected outcomes of ACE-LYNX, thus far, have been responsive to the CMOs identified in this paper. First, ACE-LNYX uses a train-the-trainer approach to build capacity among on-campus mental health service providers, who will then train student leaders to provide peer mental health support to other students (CMO1). Second, ACE-LYNX brings together psychiatrists and nurses from a provincial mental health hospital and non-medical service providers (described in this paper) to engage in a five-day in-person training program. During the intervention training, service providers engage in experiential and collaborative learning, which facilitates relationship building and strengthens the establishment of effective mental health service networks (CMO3). In addition, our team has organized and delivered integrative knowledge exchange sessions that bring together mental health service providers and university administrators to discuss priority issues in mental health service delivery (CMO2). Since the implementation of ACE-LYNX is in progress, results on how successful and/or unsuccessful the intervention is in addressing the CMOs identified in this paper will be reported in future.

6. Conclusion

This paper reports on the analysis of the roles of mental health service providers and the complex contexts that influence the effectiveness of their work within the university setting in China. Despite the shortage of mental health professionals in the country, Chinese universities have established comprehensive support networks that involve non-health professionals and students in the delivery of on-campus mental health services. Informed by a settings approach and the social ecological perspective, we have identified three CMO configurations showing how the engagement of non-health actors has contributed to expanding the on-campus mental health support networks but has also created new barriers for students to seek mental health support. We argue that leaders and administrators in universities need to consider adequate human resources as a fundamental element within the infrastructure of mental health care provision. In addition, the effective deployment of human resources needs to be analyzed by taking into account the interconnections, interactions, and synergies within the mental health care networks in university settings.

Our analysis revealed that the competitive roles of service providers and the institutional arrangement of intersectional collaboration have a direct impact on the effectiveness of specific workforce strategies. However, it is important to note that the three generative mechanisms identified in this article do not fully capture the complexity of China's on-campus mental health intervention strategies. The scope of our analysis in this article is focused on the mental health workforce issue, highlighting the value of the settings approach in illuminating the intertwined facilitators and challenges in the frontline delivery of mental health support within the university context, where multiple non-health objectives and interests compete for attention. Future research could broaden the research focus to include additional contextual variables such as culture, policy, curriculum, and cross-setting interactions in order to comprehensively examine China's university mental health issues and develop on-campus intervention projects.

CRediT authorship contribution statement

Rui Hou: Writing – review & editing, Writing – original draft, Formal analysis, Conceptualization. **Isabella Huang:** Writing – original draft, Project administration, Formal analysis, Conceptualization. **Kenneth Po-Lun Fung:** Writing – review & editing, Methodology, Funding acquisition, Conceptualization. **Alan Li:** Writing – review & editing, Methodology, Funding acquisition, Conceptualization. **Cunxian Jia:** Writing – review & editing, Supervision, Investigation, Funding acquisition. **Shengli Cheng:** Writing – review & editing, Supervision, Investigation, Conceptualization. **Jianguo Gao:** Writing – review & editing,

Investigation, Funding acquisition, Conceptualization. **Jingxuan Zhang:** Writing – review & editing, Investigation, Funding acquisition, Conceptualization. **Josephine Pui-Hing Wong:** Writing – review & editing, Supervision, Project administration, Methodology, Funding acquisition, Conceptualization.

Statement EA

Authors of this manuscript have complied with APA ethical principles in their treatment of individuals participating in the research, program, or policy described in the manuscript. This work was approved by the research ethics boards of all participating institutions in China in November 2018. Canadian institutions that gave approval were Ryerson University (REB2018-455) in January 2019, University of Alberta (Pro00089364), York University (e2019-162) in May 2019, and University of Toronto (RIS37724) in August 2019. Data collection took place upon ethics approval and was completed in January 2020.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.socscimed.2024.117527.

Data availability

The data that has been used is confidential.

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