

Barriers and Facilitators of Digital Mental Health Resource Utilization by University Students

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Abstract

Mental health is a growing issue in countries around the world, affecting multiple aspects of a person, and imposing a significant burden on the host country. While digital mental health resources hold the potential to address many of the issues found in traditional resources such as accessibility and scalability, the problem of a lack of resource utilization continues to undermine the efficacy of this approach. In order to understand and address this issue, a qualitative study involving 20 university students was carried out to understand the barriers and facilitators to the use of digital mental health resources. The findings of this study unveiled the key themes of Self-Efficacy and Effort Expectancy, Digital Alliance and Perceived Usefulness when designing digital mental health tools for university students, and highlights the need for an integrative approach in designing mental health resources, combining the strengths of traditional and digital resources, and developing an ecosystem where each can support the other.

Keyword: mental health, technology acceptance, digital alliance, student, qualitative

I. Introduction

Mental health, increasingly recognized as a critical issue globally, affects numerous dimensions of an individual's well-being and imposes a substantial socio-economic burden on countries. This growing concern is amplified by the complex interplay of psychological, biological, and environmental factors that contribute to mental health disorders. Among these, stress has been identified as one of the most prominent and prevalent causes of mental illnesses. Research indicates that approximately 75% of mental disorders have their onset during the tumultuous period of adolescence, a time often characterized by significant stress and adjustment challenges. This prevalence is particularly notable among university students, who are reported to experience higher than average levels of stress due to academic pressures, social changes, and the transition to adulthood.

This heightened level of stress during such a formative period underscores the importance of early intervention and the effective utilization of mental health resources. It is crucial for mitigating the risk of developing long-term psychological issues and for promoting mental well-being during these critical years. Digital mental health resources, such as online therapy, apps for stress management, and virtual support communities, have emerged as promising tools in this regard. These digital solutions offer several advantages over traditional face-to-face therapy, including improved accessibility for those in remote or underserved areas, greater scalability to reach a larger population, and the potential for anonymity, which can reduce the stigma associated with seeking mental health support.

However, despite these apparent benefits, the adoption and effective use of digital mental health resources have not been as widespread as anticipated. This discrepancy raises concerns about the underutilization of these resources, which is a critical barrier to their efficacy. To explore this issue in depth, our qualitative study focused on identifying the barriers and facilitators influencing the use of digital mental health resources among adolescents and university students. Through in depth

interviews with local university students, we aimed to gain insights into the factors that either encourage or deter this demographic from leveraging digital mental health tools. Understanding these factors is essential for developing strategies to increase engagement with these resources, thereby enhancing their potential impact on mental health outcomes during a crucial developmental stage.

II. Background

A. Existing Work

Various studies have identified factors affecting a student's decision to make use of digital mental health resource. For instance, technological complications can pose a significant challenge; students may find themselves struggling with the digital platform's usability or be hindered by a lack of necessary technological skills [1]. Privacy concerns can also deter students from making full use of these resources. Luxton et al. [2] reveal that apprehensions about data privacy, especially when it comes to confidential and sensitive health information, can cause hesitation. The impersonal nature of digital resources is another crucial barrier. As noted by Schueller, Tomasino and Mohr [3], the absence of human interaction in digital platforms may feel inadequate for students used to face-to-face therapeutic interactions. Lastly, a lack of awareness about the availability of such resources compounded further by the stigma associated with seeking mental health support can also significantly inhibit utilization, [4].

In terms of facilitators, one of the most prominent advantages of digital mental health resources is their accessibility. As pointed out by Andersson & Cuijpers [5], the convenience of accessing help round the clock, irrespective of physical location, can be particularly beneficial for students with busy schedules or those studying remotely. The anonymity that these platforms offer can also be another important facilitator. According to Berrouiguet et al. [6], the ability to seek help anonymously help students feel more comfortable in addressing mental health concerns, reducing the fear of social stigma. The easy integration of digital mental

health resources into daily life, such as via applications on devices students regularly use, also help to promote user engagement [7]. Additionally, their cost-effectiveness makes these resources an attractive option for many students who may not be able to afford traditional mental health resources such as counselling or therapy [8].

B. Research Gap

A comprehensive review of the existing literature reveals a significant dearth of studies focusing on university students as a whole, in the context of digital mental health resource utilization. Although numerous studies have investigated specific subpopulations within university communities, such as college athletes, veterans, or minority groups, a broad-based understanding of mental health resources usage among the entire student population is markedly absent. This paucity of research becomes even more conspicuous when considering Asian university student populations, with virtually no studies examining the facilitators and barriers to mental health resource utilization within the Singapore context. In order to address this critical knowledge gap, our study embarks on an exploratory journey with a qualitative research approach. This approach aims to delve into the complexities of digital mental health resource utilization among Asian university students.

The choice of a qualitative study is motivated by its inherent ability to elicit a depth and richness of understanding that quantitative methods may not fully capture. Mental health, along with the utilization of its resources, is a multifaceted issue shaped by a myriad of factors—personal beliefs, social stigma, resource accessibility, socioeconomic standing, and cultural milieu. Qualitative research, with its nuanced approach, is uniquely positioned to navigate this complex landscape. Through the application of in-depth interviews, the study seeks to explore and comprehend individuals' unique perspectives, experiences, and motivations. These techniques are instrumental in unearthing the underlying reasons behind the usage or non-

usage of digital mental health resources and discerning the influencing factors shaping these decisions.

To gain an encompassing understanding of the elements affecting a university student's decision to engage with mental health resources, our research design encompasses inquiries related to both traditional and digital mental health resources. This includes counselling services, wellness talks and other representatives of traditional resources, as well as various digital mental health tools often considered as augmentations or even substitutes for conventional resources. This comprehensive approach is intended to reflect the increasingly diverse landscape of mental health resources available to students and their decision to make use of one over the other.

IV. User Study

A. Sampling Framework

In this study, random sampling was used. The reason for this was to obtain a representative sample of the university student population, enabling the findings from the study to be generalized to the entire university student population. In this study, a student was operationally defined as a youth between the ages of 18 to 35 years old in accordance with the National Youth Council definition and who was currently taking either an undergraduate course or postgraduate course at a local university.

A target sample size of 8 to 25 was identified based on the following criteria. In order to make efficient use of resources, analysis was be done in parallel with recruitment based on the method proposed by Guest, et al. [9]. Making use of length of five interviews, a run length of three data collection event and a new information threshold of <5% to calculate data saturation, the minimum number of participants needed for saturation was 8. Based on existing research, a target sample size of at most 20 was sufficient to reach data saturation for the majority of studies [10-12]. After factoring in a 25% withdrawal or no-show rate, the maximum number of

participants required would be 25. Based on these calculations, the final target sample size required for this study was between 8 to 25 participants.

B. Participant Demographics

For this study, a total of 20 participants were successfully recruited and interviewed. The descriptive statistics of respondents, as seen in Table 1, provides insight into the demographic profile of the study participants and can help provide information on whether the study sample is representative of the target population.

Table 1 Descriptive statistics of respondents

		Number	Percentage
Nationality	Singaporean	15	75%
	Overseas	5	25%
Sex	Male	7	35%
	Female	13	65%
Age	18 - 20	6	30%
	21 - 23	10	50%
	24 - 26	3	15%
	27 and above	1	5%
Course	STEM	13	65%
	Arts	7	35%
Year of Study	UG - 1	5	25%
	UG - 2	2	10%
	UG - 3	4	20%
	UG - 4 and above	5	25%
	PG	4	15%
Poor MH Experience	Yes	16	80%
	No	4	20%

Of the 20 participants who took part in our study, 75% were local Singaporean students and 25% were overseas students, while 35% were male and 65% were female. While 50% of the survey respondents were between the ages of 21 to 23, this is in keeping with the local student population, as while local females tend to enter university between the ages of 18 to 20, local males were subjected to a 2-year military service commitment, and thus would only enter

university at the ages of 21 to 23. The mean age of all participants was 22.4 years (SD = 3.41). In terms of courses, 65% of participants were from STEM based courses, while 35% were from Arts courses. This is in line with the local university enrolment numbers which often have a heavier focus on STEM courses. Student study year is evenly represented with 25% of students coming from undergraduate year one, 10% of students coming from undergraduate year 2, 20% of students coming from undergraduate year 3, 25% of students coming from undergraduate year 4 and 20% of students from postgraduate courses. Of the 20 participants, 75% of the participants were Singaporean and 80% of the participants reported having experienced poor mental health during the course of their studies. Overall, based on these descriptive statistics, the study sample represents the target population well.

C. Interview Guide

For this study, a semi structured interview guide was developed to help facilitate the interview, and an initial version was pilot tested within the research team for language and clarity before being finalized for use in the study. The interview guide covered participants' experiences with mental healthcare resources, both traditional and digital, as well as user preferences in terms of digital mental healthcare resources. In terms of participants' experience with health care resources, key areas covered include questions pertaining to facilitators and barriers to intention to use as well as facilitators and barriers to continued use.

Traditional mental health resources covered in the interview included professional counselling services provided by the University Counselling Centre (UCC), emergency helplines, mental campaigns organized by the University Wellbeing Office (UWO), talks and seminars on mental health topics, as well as the university Peer Helping Programme (PHP), a student volunteer programme aimed at promoting mental health and wellbeing among students. Digital mental health resources covered included official university wellbeing resources such as the University Wellbeing Office's intranet page and the University Wellbeing Office outreach channels such as email, blog, Telegram, Facebook, and Instagram as shown in Figure 1.

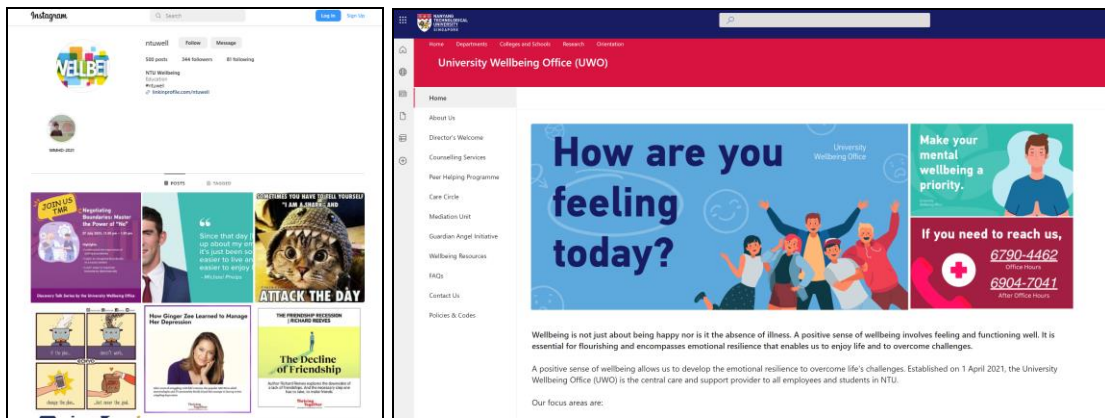


Figure 1 University Wellbeing Office Instagram and Intranet Page

Initiatives and platforms being trailed by the UWO such as the Hear Me Out platform where students can anonymously seek advice from the PHP team, as well as Intellect, a self-care cognitive behavioral therapy application were also presented covered in the interview. Lastly, the nation one-stop mental health platform Mindline.sg, shown in Figure 2, as well as its various modules was also presented to them and covered in the interview.

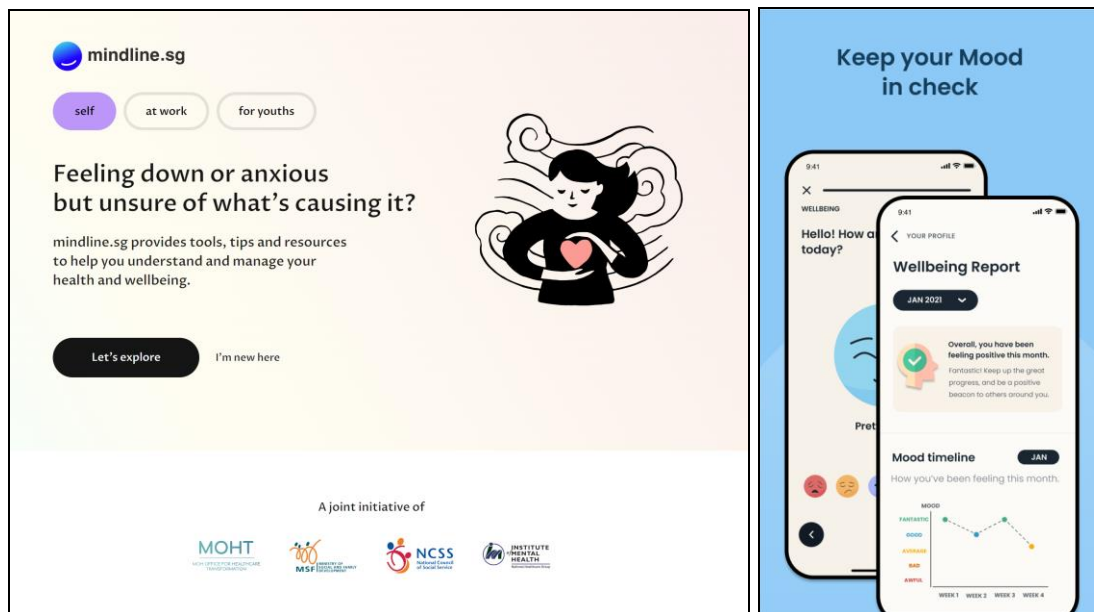


Figure 2 Mindline.sg and Intellect

D. Data Collection and Analysis

Interviews took place in a private room, reserved by the research team for the study in order to ensure the participants' privacy. When participants arrived at the study site, they would first complete a short demographic sheet before beginning the interview. During the interview, field notes were taken on the spot, and audio was recorded for later transcription and analysis. The

interview first began with a brief section on their mental health experiences and perceived mental health needs to help provide context to the remainder of the interview. Following this, the topic continued on to cover questions related to digital mental health resources as well as relevant related traditional mental health resources. For this section, each of the digital resources was presented to them on a laptop, and they were given time to explore the resource or refresh their memories before being asked about their experiences, perceptions, facilitators, and barriers to use.

Following the interview, audio recordings were transcribed using the Microsoft Word software, and interview data was anonymized during the transcription process, with each participant being assigned an ID number to represent them. Once transcription was done, all data was imported into the qualitative data analysis software MAXQDA 2020 for analysis. Once this was done, thematic analysis was applied to the data to extract relevant themes and subthemes.

E. Ethics Approval

This study was approved by the Nanyang Technological University Institutional Review Board (Reference: IRB-2022-840) in Singapore. To ensure participants' wellbeing, the researcher conducting the interview was trained and certified in psychological first aid in order to provide support to participants during the on-site qualitative interview if required. Emergency contact information for the study team and the university's 24-hour psychological emergency line was also included in the informed consent form in the event participants were feeling unwell at any point during or after the study.

V. Findings

Our thematic analysis of interview data revealed three primary themes and four subthemes that were instrumental in shaping the utilization of mental health resources among university students. Each of these themes and sub-themes provided critical insights into the various barriers, facilitators, and preferences that significantly influence student engagement with digital mental health resources in

the Singapore context. These themes and sub-themes collectively elucidate the multifaceted landscape of mental health resource utilization. They shed light on the complexities involved in navigating mental health support in a university setting, the specific challenges students face, and the aspects they value in a mental health resource.

A. Theme 1: Self-Efficacy and Effort Expectancy

Self-efficacy is central to an individual's belief in their capability to undertake specific actions that lead to desired outcomes. Influenced by an array of factors such as the complexity of the task, motivational drives, and the surrounding environment, this belief significantly impacts an individual's approach to achieving their objectives. In the context of our study involving university students, we found that technical difficulties did not act as primary determinants that influenced the use of digital mental health resources. Contrary to expectations, the challenges students encountered did not originate from operating the resources per se but were instead tied to environmental and motivational factors. These factors manifested in two prominent sub-themes: 'Awareness' and 'Cost'. The 'Awareness' sub-theme encapsulates the barriers posed by limited knowledge of available resources and difficulties in accessing them. Meanwhile, the 'Cost' sub-theme refers to the effort expectancy - the amount of cognitive and time investment students anticipate they need to utilize these resources effectively. Therefore, while self-efficacy remained a constant underpinning theme, it was the environmental and motivational factors as well as the effort required to make use of a resource that prominently emerged as the key influencers affecting the use of digital mental health resources among university students.

For instance, compared to digital mental health resources, awareness of traditional mental health resources, while not optimal, was still significantly better than that of digital mental health resources. The University Counselling Centre, a traditional mental health resource, was known to 13 out of 20 participants, the Peer Helping Programme was known to seven students while remaining traditional resources, such as emergency helplines, mental health campaigns, and mental health talks and seminars, were known to six or fewer students. For digital mental

health resources on the other hand, while all participants were aware of emails disseminated by the University Wellbeing Office (UWO), only five participants were aware of the Wellbeing page and its resources on the student intranet. Only four participants were aware of the University Wellbeing Office's Telegram channel, and all other digital resources were known to three or fewer students.

One reason for this lack of awareness was the difficulty in locating and accessing these resources. For instance, one participant mentioned attempting to find these resources using the Google search engine but was unsuccessful in discovering them. Further investigation uncovered the crux of the issue: resources such as the University Wellbeing page were exclusive to the university's intranet. This exclusivity prevented external search engines like Google from indexing them, making these resources invisible in the search results. As a result, students unaware of these resources' exact location had minimal chances of discovering them through a simple internet search.

The second sub-theme identified was the cost associated with using these digital mental health resources. University students are often grappling with a heavy academic workload, various social engagements, personal responsibilities, and other competing priorities. These factors significantly influence their decision-making process when considering whether to use a particular digital mental health resource. The cost of using a resource extends beyond financial implications and includes factors such as cognitive load and time commitment. For example, cognitive load refers to the mental effort required to find and utilize a resource. This load can be accentuated by several factors, such as poorly designed user interfaces, confusing resource organization, or difficult access procedures.

Even for students who were motivated to seek mental health resources on the intranet, the fragmented nature of the resource organization created significant difficulties. Resources seemed to be disseminated in a haphazard, piecemeal manner rather than a coherent, organized structure. This lack of uniformity and logical organization posed an unnecessary challenge to

students who already found the process of seeking digital mental health resources daunting, requiring students to spend unnecessary time and effort to find what they needed, reducing their likelihood of actively seeking and utilizing these resources. Consequently, even students motivated to use university provided digital mental health resources might abandon their search, resulting in underutilization of potentially helpful resources and services.

When dealing with digital resources, the interface and method of interaction can have a significant impact on a user's cognitive load. For instance, when evaluating the tool 'Hear Me Out', a platform allowing users to anonymously post messages for the Peer Helping Programme members to respond to, participants highlighted the significant barrier translating emotions into words posed. Communicating emotional distress via such a method can often be a complex process, as it requires individuals to introspect, identify, and verbalize their feelings in writing accurately. This process can be especially demanding when students are already experiencing emotional distress.

Conversely, participants had positive feedback about 'Intellect', a mobile application that allowed users to describe their emotions through selecting relevant images. This feature simplified the process of expressing emotions by substituting the cognitive effort required to articulate feelings into words with the easier task of associating feelings with images. This method provided a more user-friendly approach, thereby reducing the cognitive load and facilitating more accessible communication.

These contrasting examples underscore the importance of reducing cognitive load to enhance the accessibility and utilization of mental health resources. By making it easier for students to express their feelings and needs, we increase the likelihood of these resources effectively serving their intended purpose. It emphasizes the need to incorporate intuitive and user-friendly features into digital mental health resources.

B. Theme 2: Digital Alliance

The theme of digital alliance derives from the traditional concept of therapeutic alliance or the partnership between a patient and a therapist, allowing them to achieve shared goals through relevant tasks, in the presence of a mutually positive relationship. Drawing upon this concept, the effectiveness of a digital resource can often be gauged by the depth of this alliance. In our analysis, key subthemes in this area were that of professionalism and relevance. The professionalism subtheme covers the areas of service provider and privacy, while the usefulness and relevance subtheme pertain to areas such as the target audience of the resource or content as well as content personalization.

When deciding whether to engage with a digital mental health resource, professionalism was a key factor. This theme consistently emerged across numerous participants, reflecting a preference for professional support over peer-based assistance. Students expressed a sense of security and confidence in the skills of professional counsellors such professional coaches available in the Intellect app, viewing them as experienced and knowledgeable sources of help. They noted that the expertise and maturity of professionals made them more capable of providing meaningful, quality advice. As such, digital resources, content, and services by professionals were viewed as more credible and trustworthy.

On the contrary, for digital resources such as the Hear Me Out platform, despite being readily accessible, were seen as less reliable because they were run by fellow students. There was a general sentiment that peers, despite potentially having a better understanding of the pressures and challenges of university life, might lack the necessary expertise and professional judgment to provide appropriate mental health support.

Another aspect related to professionalism and service provider was that of privacy. While participants were aware of mental health issues, substantial concerns around stigma and confidentiality remain when it comes to discussing mental health. In this area, the anonymized nature of digital applications was seen as a significant advantage, providing a safe space for

users to express their feelings without fear of judgment. However, this was mainly true for professional led resources. Despite peers potentially having a better understanding of the pressures of university life, the fear of breaches in confidentiality and the social implications that may follow continued to hinder trust in peer-based resources.

In addition to professionalism, relevance, was identified as an essential factor that influence the digital alliance between a user and a mental health resource. Many users expressed frustration with content that they felt was too generic, not tailored to their specific situations, or did not provide enough specific advice or strategies. As one participant pointed out when reviewing the university provided digital resources and content, offering advice such as "eat well, drink well" as a way to help improve mental health was too vague and general to be helpful. Other issues highlighted included the fact that other than general tips which were not specific to students, the only student specific area covered was academic stress, and even then, the articles were general exam tips and did not provide actual mental health information nor point to any resource specific to the university itself.

Other comments relating to the lack of personalization and repetitiveness in terms of the content provided by resources, stressed the need for resources to be adaptive and responsive to individual needs and contexts, while comments about content being uninteresting and not immediately useful, indicated a need for more engaging and practical content. One positive example of a digital mental health resource was that of the university Reddit which was brought up multiple times. Compared to the Wellbeing Office Telegram channel where users could only view content but not post or ask questions, the university Reddit was praised for allowing students to ask any question they may have and receiving relevant advise and feedback, highlighting the importance of context-specific resources that understand and cater to the unique needs of an individual and encouraging open conversation.

C. Theme 3: Perceived Usefulness

The perceived usefulness of a resource can greatly affect the extent to which users engage with it. In this study, the theme of perceived usefulness is closely tied to the role of digital mental health resources. This theme covers the unique roles students assign to traditional mental health resources and digital mental health resources within the wellness ecosystem, as well as how students felt should be used and what makes them useful.

Participants highlighted that the severity of the problem often played an important role in determining which resource they would seek, with traditional mental health resources, such as counselling, being viewed by students as more suitable for more severe or more serious issues. The reason for this was that many students already had existing support systems in terms of friends and family to whom they could confide in and seek help from for minor issues. However, these support networks can sometimes be part of the problem. When this occurs, the participant loses their source of support, and due to the sensitivity of issues related to relationships and family, participants found speaking to a counsellor more helpful. This suggests that students may navigate between different types of resources based on their current need, severity of the issue, and the comfort level of sharing with their existing networks. Nevertheless, traditional resources are not without their drawbacks, the main drawback being their availability. For resources such as counselling, the perceived delay between making an appointment and a counselling session or the time between counselling sessions was reportedly too long, especially when they perceived their situation as urgent, and often discourage students from following up with counselling sessions or even considering counselling as a viable avenue.

While traditional resources such as counselling were viewed as more appropriate for serious issues, the perception of digital mental health resources among participants is twofold. On one hand, they are seen as a valuable initial step for addressing minor problems due to their accessibility and convenience. On the other hand, they are often regarded as lacking the human

connection and emotional understanding necessary for more complex mental health issues. Participants voiced scepticism about the ability of digital resources to provide meaningful support for serious problems, referring to these resources as "inhuman" and criticizing their inability to fully comprehend or provide advice on human issues. Despite these limitations, digital resources serve as a helpful starting point for mental health support. They offer a first point of contact with mental health information before reaching out to friends or considering counselling, which is often viewed as a last resort.

Due to their role as a preliminary source of support, digital resources often take the form of information sources. Despite the ability for such information sources to be of practical use such as financial aid agencies, the main challenge identified with such digital resources is the gap between knowledge and action, with participants admitting that knowing about a resource or strategy does not necessarily translate to using them. Another role of digital resources identified by participants was that of a facilitator of self-reflection and self-monitoring. Digital platforms allow users to self-reflect and intervene in their issues in a private and safe environment which participants felt was less stressful than traditional mental health resources such as counselling. One key reason proposed for the ability of digital mental health resources to act as preliminary sources of support and information as well as facilitators of self-reflection and monitoring was the convenience of such applications and the ubiquity of mobile smart devices.

V. Discussion

The themes of Self-Efficacy and Effort Expectancy, Digital Alliance, and Perceived Usefulness, as revealed in our study, highlight the intricacies and complexities surrounding the usage and effectiveness of digital and traditional mental health resources among university students. The investigation has further reinforced existing notions while shedding light on emerging insights within the mental health resource landscape.

Beginning with Self-Efficacy and Effort Expectancy, the role of individual belief in one's capabilities to achieve goals in specific situations is a well-established concept in the psychological and behavioral sciences. Bandura's social cognitive theory [13], which puts forth self-efficacy as a key determinant of behavior change, finds a strong echo in our study. Our findings suggest that a student's perceived self-efficacy, coupled with their expectations of the effort required, determines their willingness to seek help from mental health resources. This lends weight to the argument that resources designed to inform on or improve mental health should also consider strategies to enhance individuals' self-efficacy [14], and aligns with previous studies suggesting the positive correlation between internet self-efficacy and usage of digital health resources [15]. The aspect of effort expectancy is linked to the perceived ease of use or convenience associated with a mental health resource. It is noteworthy that participants perceived digital resources as less effortful due to their easy accessibility and convenience. This is in line with the unified theory of acceptance and use of technology (UTAUT) model [16] which posits that perceived ease of use (effort expectancy) influences behavioral intention to use a technology. Therefore, developers of digital mental health resources should prioritize ease of discovery and navigation as well as user-friendly interfaces to foster increased usage among students.

Digital alliance, the second theme, underscores the significance of professionalism and relevance in influencing the effectiveness of a digital resource. This finding corroborates previous studies that suggest trust in the professional expertise of health service providers contributes significantly to the perceived quality and usefulness of the service [17, 18], and is paramount to the effectiveness of a digital resource [19]. The preference for professional support and content over peer-based assistance and content highlighted in our study reflects the importance of credibility, confidentiality, and expertise in mental health support services. Echoing the findings of Yardley et al. [20], both aesthetics and functionality of the digital resource were found to have a significant impact on a user's perception of professionalism and engagement. The need for personal relevance and context-specific content in digital resources is another significant finding in our study. Participants noted

frustration with generic content, underscoring the need for personalization and specificity, in line with previous studies that highlighted the importance of relevance and personalization in the effectiveness of health interventions [21]. Creators of digital mental health resources, thus, need to invest efforts in making the resources adaptive to individual contexts and needs, while ensuring that the content is engaging, immediately useful, and practical.

Perceived usefulness, the third theme, distinguishes between the roles of traditional and digital mental health resources. This finding builds on the work of Davis [22], who suggested that perceived usefulness is a determinant of technology acceptance. Traditional resources, such as counselling, were seen as more appropriate for dealing with severe mental health issues, aligning with existing literature that suggests the usefulness of counselling in treating complex mental health disorders [23]. On the other hand, digital resources were perceived as suitable for minor issues, serving as an accessible initial step due to their convenience. However, these resources were seen as lacking the human connection required for complex mental health issues, echoing concerns in the literature about the limited effectiveness of digital interventions for serious mental health problems [24]. Our study also illuminates the significant role of digital resources in facilitating self-reflection and self-monitoring, as well as serving as an initial source of mental health information. These findings reinforce the idea that digital mental health resources, while not a complete replacement for traditional resources, can complement them by offering readily accessible and convenient initial support [25].

V. Conclusion

The current study provides a nuanced understanding of the mental health resource landscape in a university setting and the role of digital mental health resources within this ecosystem. It illuminates the significance of professionalism and relevance in digital resources, and the perceived usefulness of traditional and digital resources in shaping students' engagement with digital mental health resources. The findings call for an integrative approach in designing mental health support services,

combining the strengths of traditional and digital resources, and developing an ecosystem where each can support the other. Future research can focus on how to enhance the synergy between these different types of resources and devise innovative strategies to create a more robust mental health support ecosystem.

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