

Analysis of Mental Health Education and Counseling Work Based on the Characteristics of Student Use of Psychological Counseling Hotlines

Qingfang Tan^{1,a}, Hao Zhou^{2,b,*}

¹Mental Health Education Counseling and Research Centre, Shenzhen Polytechnic University(SZPU), Shenzhen, China

²College of Digital Communication, Shenzhen Polytechnic University(SZPU), Shenzhen, China

^a1033005206@qq.com, ^bzhouhao@szpu.edu.cn

*Corresponding author

Abstract: In recent years, mental health has gained increasing attention within academic and societal discourse, with universities playing a critical role in promoting mental well-being among students. This paper presents an analysis of the student mental health service reports from a university over the academic years 2021-2023, focusing specifically on students' use of psychological counseling hotlines and other consultation methods. The study examines the usage patterns, including consultation frequency, preferred communication channels, time distribution, and the demographic variations among students. By comparing the data across three years, the research identifies significant trends, such as the growing demand for mental health services, shifts in preferred consultation methods, and the rise in complex psychological issues reported by students. Furthermore, this paper explores the underlying factors contributing to these trends, including the impact of increased academic and social pressures, heightened awareness of mental health issues, and the influence of external events such as the COVID-19 pandemic. Through this analysis, the paper offers targeted recommendations for improving mental health education and counseling services in universities. Key suggestions include the need for diversified consultation methods, increased psychological service resources, enhanced educational efforts on mental health, and a more personalized approach to addressing the unique needs of different student groups. This research aims to provide empirical evidence and actionable insights to support the optimization of mental health services in higher education institutions, ensuring better mental health outcomes for students.

Keywords: Psychological hotline, psychological counseling, student mental health, trend analysis, university counseling services

1. Introduction

1.1. Background

In recent years, mental health has emerged as a critical concern within academic institutions worldwide^[1]. University students, particularly those in their late adolescence and early adulthood, face a multitude of pressures related to academic performance, career planning, social integration, and personal development^[2-5]. These pressures often culminate in mental health challenges^[6], including anxiety, depression, and stress, which can severely affect students' academic achievement and overall well-being^[7-10]. As such, addressing the mental health needs of students has become an essential part of higher education^[11], with universities increasingly recognizing the importance of providing mental health education and counseling services^[12].

The target school, a prominent institution in China, has implemented a variety of mental health services over the years to support its student population. These services include counseling hotlines, face-to-face counseling sessions, and digital platforms for psychological support^[13, 14]. In particular, psychological counseling hotlines have emerged as a widely used service, offering students a confidential and accessible means of seeking help^[15-17]. As digital communication continues to shape students' engagement with mental health services, it is important to understand how students utilize these services, which channels they prefer, and the types of psychological issues they seek help for^[18-20].

The growing recognition of mental health issues on campuses is also influenced by broader societal shifts^[21]. With increasing media coverage and academic discourse surrounding mental health^[22], students are more aware of the importance of mental well-being and are more likely to seek professional support^[23]. Additionally, external factors, such as the global COVID-19 pandemic, have exacerbated mental health concerns, with students experiencing heightened levels of stress and isolation due to remote learning, social distancing, and uncertainty about the future^[8, 24, 25].

Despite the growing demand for mental health services, challenges remain in ensuring that counseling services are effectively tailored to meet the diverse needs of students^[26-28]. Factors such as the mode of consultation, the timing of consultations^[29], and the nature of the issues students face require careful analysis to optimize the provision of these services^[30]. This research focuses on understanding the patterns and characteristics of students' use of psychological counseling hotlines at a university over a three-year period (2021-2023). By examining these patterns, this paper aims to identify key trends in student mental health, explore the reasons behind these trends, and propose recommendations to enhance mental health education and counseling services on campus.

As universities face growing pressure to address students' mental health needs, the role of psychological counseling services becomes increasingly central. This study not only contributes to a deeper understanding of the mental health challenges faced by university students but also provides evidence-based recommendations for improving the effectiveness and accessibility of mental health services within academic institutions.

1.2. Research Focus

This study focuses on the analysis of the student mental health service reports from a university for the academic years 2021-2023, with particular emphasis on the use of psychological counseling hotlines and other consultation methods. Over these three years, a university has collected comprehensive data on the utilization of its mental health services, which provides a valuable empirical foundation for understanding student engagement with these services and the evolving trends in student mental health.

The primary focus of this research is to explore how students use psychological counseling hotlines and other available consultation methods, including face-to-face counseling and online platforms such as QQ consultations. By examining the usage patterns across three academic years, this paper aims to identify key characteristics of student interactions with mental health services, such as the frequency of use, preferred channels for seeking help, and the timing of consultations.

The primary objective of this study is to explore the characteristics of students' use of psychological counseling hotlines and other consultation methods at a university over a three-year period (2021-2023). This research aims to provide a comprehensive analysis of the patterns and behaviors associated with students' engagement with mental health services, specifically focusing on the psychological counseling hotline as a key channel for accessing support. The study will pursue the following key objectives:

One of the core objectives of this research is to investigate how students utilize psychological counseling hotlines and other consultation methods, such as face-to-face sessions and online platforms (e.g., QQ consultations). This includes understanding factors such as the frequency of use, preferred modes of consultation, and the demographic profiles (e.g., gender, academic year, discipline) of students who most frequently engage with these services. By doing so, the study will provide a clear picture of how students interact with mental health resources and whether certain groups are more inclined to seek help through specific channels.

An essential part of this study is to identify trends and patterns in the use of psychological counseling services across three academic years. This includes assessing whether there has been a significant increase or decrease in the number of consultations over time, particularly in relation to specific issues such as academic pressure, emotional distress, and interpersonal conflicts. Understanding these trends is crucial for assessing the broader shifts in student mental health, including any growing awareness or demand for support, as well as the impact of external factors (e.g., the COVID-19 pandemic) on service utilization.

The study will also focus on the temporal aspects of students' use of psychological counseling services. By examining the time of day and frequency of consultations, the research seeks to identify periods when students are most likely to seek help, such as during academic stress peaks, or at night

when students may feel more comfortable seeking support in privacy. This analysis will inform the university's scheduling and staffing of counseling services, ensuring that adequate resources are available during high-demand periods.

Finally, the objective is to contribute to the growing body of research on student mental health in higher education. By providing detailed insights into the use of mental health services and the factors influencing students' help-seeking behavior, this study aims to inform policies and practices that can improve mental health support systems in universities nationwide. The findings will be valuable not only for a university but also for other higher education institutions seeking to enhance their mental health services and provide a more supportive environment for students.

Through these objectives, this research will provide a thorough analysis of students' engagement with psychological counseling services, identify key trends and patterns, and propose data-driven recommendations to improve the quality and accessibility of mental health support within academic institutions.

2. Characteristics of Students' Use of Psychological Counseling Hotlines and Counseling Methods

2.1. Consultation Rate and Trends

2.1.1. Overview of the Increasing Consultation Rate from 2021 to 2023 (from 2.43% to 3.52%)

The consultation rate for psychological counseling services at a university has shown a noticeable increase over the three-year period from 2021 to 2023. In 2021, the consultation rate was recorded at 2.43%, while by 2023, this figure had risen to 3.52%. This increase represents a 45% rise in the utilization of mental health services, which is a significant trend warranting further exploration.

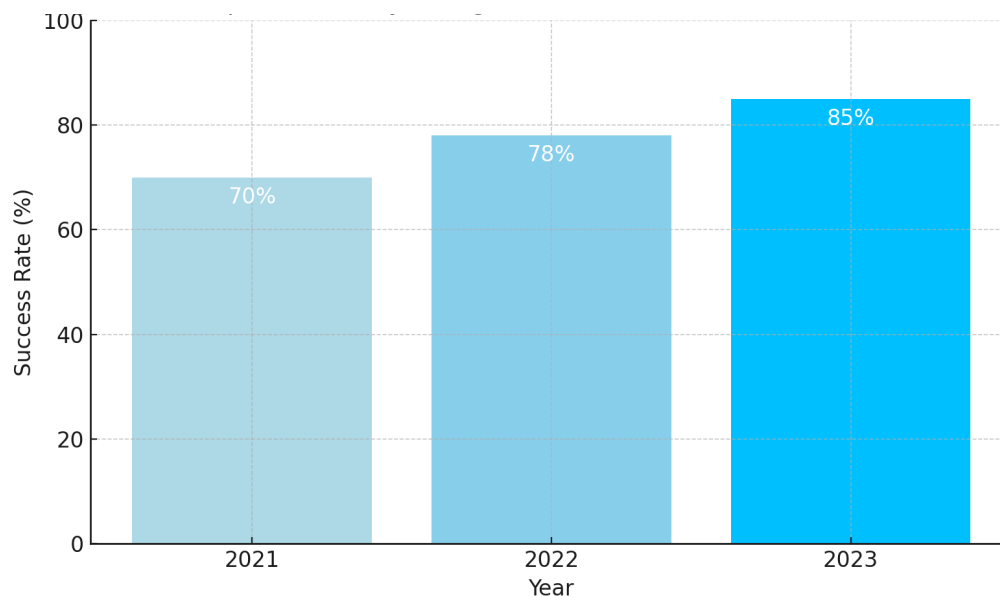


Figure 1: Comparison of Psychological Consultation Success Rates (2021-2023).

Several factors could explain this upward trend in consultation rates. First, the data reflects an increase in students' awareness of mental health issues, which may have encouraged more students to seek help. Mental health awareness campaigns and outreach initiatives, particularly those integrated into university orientation programs, may have played a role in normalizing the process of seeking counseling. Additionally, during this period, there was a global increase in mental health discussions, likely influencing students' perceptions of counseling services as essential resources for addressing emotional and psychological distress, as can be seen in Figure 1.

Furthermore, the COVID-19 pandemic, which continued to impact daily life throughout 2021 and into 2023, may have contributed to this rise. The prolonged stress caused by lockdowns, social isolation, and remote learning likely exacerbated mental health challenges among students, leading to a higher demand for psychological support. The pandemic underscored the need for accessible mental health services, which may have driven students to take more proactive steps in seeking counseling as a

means of managing the increased psychological strain.

The increase in the consultation rate also suggests that students are becoming more comfortable with using mental health resources, breaking down traditional barriers to help-seeking behaviors. This could be attributed to the destigmatization of mental health issues, as well as the development of more accessible and flexible counseling options, such as online and text-based consultations, which have made it easier for students to engage with mental health professionals.

2.1.2. Significance of the Growing Demand for Mental Health Services

The significant rise in consultation rates from 2.43% to 3.52% is indicative of a broader societal shift in how mental health is perceived by university students. The growing demand for psychological counseling services carries important implications for both student well-being and institutional response strategies.

Firstly, the increasing consultation rate is a clear indication of the growing recognition among students that mental health is a vital aspect of their overall well-being and academic success. As students face mounting pressures related to academic performance, career aspirations, and social relationships, the role of mental health services in supporting their ability to navigate these challenges has become more pronounced. This shift in attitudes reflects a larger cultural change, in which mental health is no longer viewed as a taboo subject but as an essential part of a student's university experience.

Secondly, the rise in consultation rates highlights the expanding role of mental health services in universities. As demand for counseling services grows, institutions are under increasing pressure to provide adequate resources to meet the needs of students. This requires not only the expansion of mental health services but also the development of more diverse and flexible support mechanisms, including different modes of communication (e.g., phone consultations, online platforms) and specialized programs targeting specific student groups, such as international students or those from underrepresented backgrounds.

The growth in consultations also points to the need for continuous adaptation and improvement of counseling services. Universities must ensure that their support systems are adequately resourced to keep pace with the increasing demand. This includes hiring additional qualified mental health professionals, providing training to staff on addressing the emerging needs of students, and incorporating preventative measures into the service offerings (e.g., workshops on stress management and coping strategies).

In addition, the increase in consultation rates underscores the importance of early intervention in addressing student mental health issues. By increasing the accessibility and visibility of counseling services, universities can help students address mental health concerns before they escalate into more serious conditions. This proactive approach not only benefits individual students but also contributes to creating a healthier and more supportive campus environment overall.

Moreover, the rise in consultation rates can be seen as a positive outcome of improved outreach and mental health promotion initiatives on campus. As more students use counseling services, it is essential for universities to continue investing in these services, ensuring they are capable of meeting the diverse needs of an increasingly diverse student body. The increase in demand also provides an opportunity for institutions to reassess and refine their mental health strategies, ensuring they are aligned with the evolving expectations and needs of students.

2.2. Preferred Consultation Methods

2.2.1. Preference for Text-Based Consultation (QQ Consultation vs. Hotline Consultations)

Over the past three years, the analysis of consultation methods at a university reveals a clear preference among students for text-based consultation through QQ messaging, compared to traditional voice-based hotline consultations (Figure 2). In 2021, 76% of students opted for QQ consultations, while this proportion slightly decreased to 61% by 2023. Conversely, hotline consultations, which typically involve direct voice communication, increased from 24% to 39% during the same period. This shift in preference reflects broader trends in communication habits, particularly the increasing use of text-based platforms for personal and professional interactions.

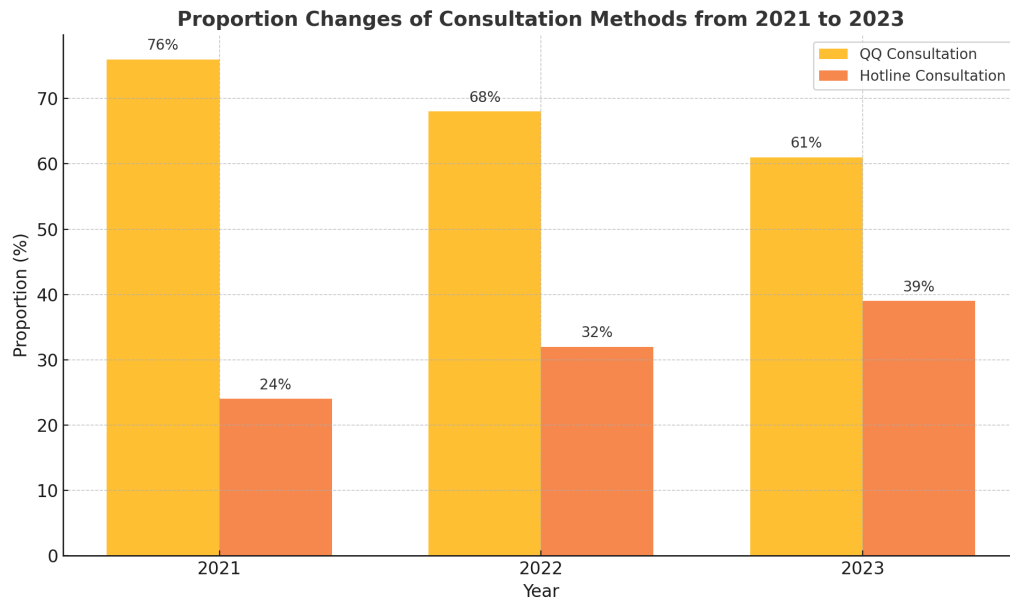


Figure 2: Proportion Changes of Consultation Methods from 2021 to 2023.

The higher preference for QQ consultation could be attributed to several factors that align with students' communication preferences in the digital age, as can be seen in Figure 2. Text-based communication offers students a sense of comfort and control that might not be present in voice-based consultations. The ability to carefully compose and edit messages before sending them allows students to express their thoughts and emotions more clearly and at their own pace, reducing the anxiety that often accompanies real-time verbal exchanges. This is particularly beneficial for students dealing with sensitive or emotionally charged issues, as they may find it easier to articulate their feelings through written words than through spoken conversation.

Moreover, QQ consultations align with the growing trend of using digital platforms for social interaction. Students, particularly in the younger generation, are accustomed to engaging with friends, peers, and professionals through text-based communication, making QQ consultations a more natural and accessible option for seeking help. The integration of text messaging with multimedia features (such as the ability to send photos or voice recordings) further enhances the flexibility and convenience of QQ consultations, allowing students to share their concerns in a way that suits their communication style.

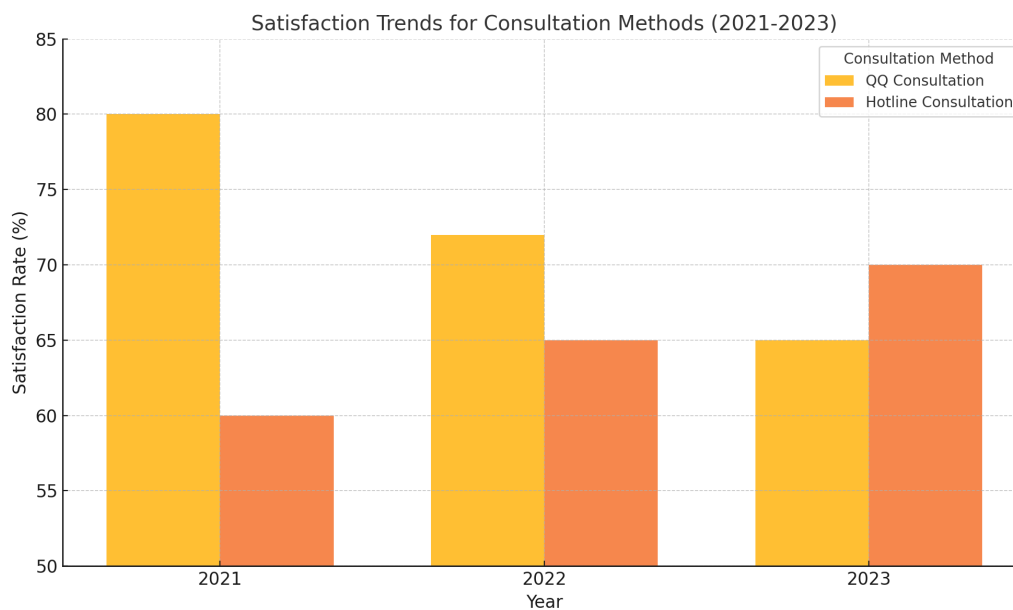


Figure 3: Satisfaction Trends for Consultation Methods (2021-2023).

However, despite the dominance of QQ consultations, there has been a noticeable increase in the use of hotline consultations over the years (Figure 3). This suggests that, while text-based methods remain preferred, there is a growing recognition among students of the value of voice-based interactions, especially when immediate, real-time support is required. Hotline consultations offer the benefit of direct verbal communication, allowing for immediate feedback and emotional reassurance from the counselor, which may be necessary in situations of acute distress or crisis. The rise in hotline consultations may also indicate a shift in students' willingness to engage in more direct and personal forms of communication when dealing with pressing psychological issues.

2.2.2. Analysis of Students' Communication Habits and Privacy Concerns Influencing These Choices

The preference for text-based consultations through platforms like QQ can be further understood by examining students' communication habits and privacy concerns. Students today are increasingly accustomed to digital communication in both personal and academic settings. The widespread use of messaging apps, social media, and online platforms for everyday communication has fundamentally shaped the way students interact with each other and with institutions. This familiarity with digital tools makes text-based consultations more appealing, as they allow for a seamless and non-intrusive means of seeking help.

One of the key factors influencing this preference is the issue of privacy. Students are often hesitant to engage in voice-based consultations due to concerns about confidentiality, particularly in a public or semi-public space. The desire for privacy is particularly strong among students facing personal or sensitive issues, such as anxiety, depression, or relationship problems. Text-based communication provides a level of anonymity and discretion that voice calls cannot always guarantee. Students may feel more secure in discussing personal matters through a text message, knowing they can manage the information shared and avoid the possibility of being overheard by others, as can be seen in Figure 3.

Moreover, emotional discomfort is another factor driving the preference for text-based consultations. Many students experience significant anxiety when discussing emotional issues aloud, especially in the presence of others. Text consultations allow them to engage with counselors from a distance, often in the privacy of their own homes or dormitories, where they may feel more at ease. This emotional comfort is especially critical for students who are new to seeking professional help, as the act of reaching out for counseling may already feel intimidating. The option to communicate via text reduces the psychological barrier to help-seeking, encouraging more students to access support when needed.

Additionally, flexibility and asynchronous communication are essential advantages of text-based consultations. QQ consultations enable students to reach out to counselors at any time, without the pressure of scheduling a specific time slot. This is particularly valuable for students with busy schedules or those who may be hesitant to speak during office hours. The ability to initiate and continue conversations at their own pace provides students with a sense of control over the process, which may be comforting when dealing with mental health challenges.

On the other hand, some students may prefer hotline consultations for specific reasons, such as the desire for immediacy and real-time interaction. In instances of acute distress, students may feel that speaking to a counselor directly on the phone allows for quicker emotional support and validation. The human voice can offer a sense of immediacy and empathy that text may not fully convey, especially in moments of crisis. Moreover, voice communication can be more effective in certain cases, as it allows counselors to detect tone, inflection, and pauses, all of which can provide important cues for understanding the emotional state of the student.

3. Trends, Patterns, and Analysis of Data from 2021 to 2023

3.1. Consultation Topics

The analysis of consultation data from 2021 to 2023 reveals clear patterns in the types of psychological concerns that drive students to seek counseling services at ×××. The most common issues presented by students during consultations fall into four primary categories: interpersonal relationships, emotional concerns, academic pressure, and career development. These categories reflect the multifaceted nature of student life and the psychological challenges that students face during their academic careers (Figure 4).

Interpersonal Relationships (30+%) The most frequently reported issue, comprising over 30% of all consultations, is related to interpersonal relationships. This broad category encompasses a range of concerns, including difficulties with friendships, romantic relationships, family dynamics, and roommate conflicts. Interpersonal issues are a natural aspect of the university experience, as students navigate the complexities of forming and maintaining relationships in a new social environment.

Among the most common relationship issues reported by students are conflicts with roommates, which are particularly prevalent during the early years of university. Living with roommates often presents challenges related to differing lifestyles, personal habits, and communication styles, which can lead to stress and tension. Additionally, the pressure of maintaining romantic relationships while balancing academic responsibilities often results in emotional distress. Relationship issues not only affect students' mental well-being but can also significantly impact their academic performance, as emotional stress stemming from interpersonal conflicts can reduce focus and increase anxiety levels.

Another key component of the interpersonal relationships category is family dynamics. Many students, particularly those from different geographical areas or backgrounds, face challenges in managing expectations and communication with their families. The pressure to meet family expectations regarding academic success, career plans, or personal behavior can create emotional strain, leading students to seek counseling support to help navigate these familial challenges. This is especially evident in the context of the growing independence students experience during university, which can create tension between their personal goals and family expectations.

Emotional Concerns (30%) Closely following interpersonal relationships, emotional concerns account for another 30% of all consultations. Within this category, students frequently report anxiety, depression, stress, and feelings of isolation. These issues are particularly prominent as students deal with the academic and personal challenges associated with university life.

Among the most common emotional concerns is anxiety, which has been identified as a major source of distress for university students worldwide. Academic pressures, social anxieties, and the uncertainty of the future often contribute to heightened anxiety levels. Students often seek help to manage anxiety symptoms, which may manifest as restlessness, difficulty concentrating, and physical symptoms such as headaches or stomach issues. In many cases, the pressure to succeed academically and secure future career opportunities exacerbates these feelings of anxiety, leading students to seek professional support.

Depression is another significant concern, with many students reporting feelings of sadness, hopelessness, and low self-esteem. The transition to university life, coupled with the pressures of academics and social integration, can contribute to the onset of depressive symptoms. Students may also experience seasonal affective disorder (SAD), particularly in colder months, when a lack of sunlight and reduced social interactions can intensify feelings of sadness or hopelessness.

Stress is a pervasive issue that cuts across all areas of student life. The demands of university work, deadlines, exams, and the need to balance extracurricular activities with academic responsibilities contribute to chronic stress. Students seeking counseling often report experiencing burnout, which manifests as physical exhaustion, emotional exhaustion, and a lack of motivation or interest in their academic work.

Feelings of isolation are another prevalent emotional concern, particularly for first-year students or those living away from home for the first time. These students may struggle with loneliness and difficulty adjusting to a new social environment, which can contribute to mental health challenges such as anxiety and depression.

Academic Pressure (10+) Academic pressure is the third most common category of concerns, representing over 10% of all consultations. Academic stressors include pressure to perform well in exams, meet deadlines, maintain high grades, and fulfill the expectations of professors and family members. This pressure is particularly acute in fields of study that are perceived as highly competitive, such as engineering, business, and medicine.

Many students face performance anxiety, where the fear of failure or making mistakes can impede their ability to complete assignments or perform well in exams. Academic stress is often compounded by the uncertainty of future career prospects, with students feeling immense pressure to excel academically in order to secure competitive internships or job placements after graduation. As a result, students experiencing academic pressure frequently seek counseling to develop coping mechanisms, manage study-related stress, and improve their time management and organizational skills.

The rise of remote learning during the COVID-19 pandemic has also exacerbated academic stress, as students faced new challenges in adapting to online learning environments. The lack of face-to-face interactions with professors and peers, as well as the difficulty in maintaining focus while learning remotely, contributed to a significant increase in stress levels among students. These challenges have persisted, even as in-person learning resumed, due to the ongoing adjustments required to manage hybrid or online course formats.

Career Development (7%) Finally, career development concerns account for 7% of consultations. As students progress through their academic years, they become increasingly focused on securing future employment, internships, and post-graduation opportunities. The pressure to define a clear career path and achieve success in a competitive job market can lead to significant stress and uncertainty.

Students often express career indecision or fear of making the wrong career choice, which can contribute to feelings of inadequacy or anxiety. The uncertainty about future prospects—especially in fields that are highly competitive or undergoing significant change—can create a sense of insecurity. In addition, students in their final years, particularly those approaching graduation, frequently experience job anxiety, where the pressure to secure employment upon graduation intensifies their mental health challenges. The uncertainty of whether their academic qualifications and experiences will lead to successful employment outcomes can contribute to career-related stress and require support from career counselors or mental health professionals, as can be seen in Figure 4.

This category also includes career development challenges, such as difficulty in networking, resume building, and preparing for interviews. Students may seek counseling to improve their confidence in career-related tasks and to receive guidance on how to navigate the complex job search process.

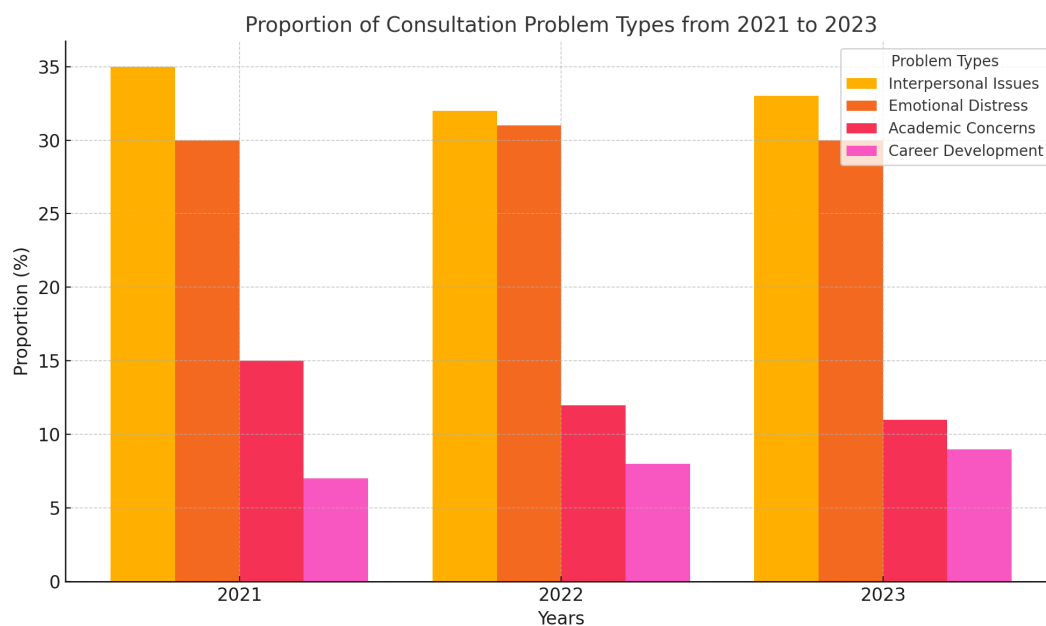


Figure 4: Proportion of Consultation Problem Types from 2021 to 2023.

3.2. Increase in Special Cases

The analysis of psychological counseling data from 2021 to 2023 reveals a concerning trend: a significant increase in the number of special cases handled by mental health professionals at $\times\times\times$. In 2021, there were only 4 special cases reported, but by 2023, this number had risen to 12, reflecting a threefold increase over the three-year period. This growth in special cases, particularly in the context of mental health consultations, suggests that a rising proportion of students are experiencing more severe and complex psychological distress that necessitates specialized intervention.

Defining Special Cases "Special cases" typically refer to students presenting with severe psychological distress, often characterized by issues that extend beyond typical emotional struggles or stressors. These cases may involve students exhibiting symptoms of severe anxiety, depression, suicidal ideation, self-harm, or other mental health crises that require immediate attention and more intensive psychological support. Special cases often demand a higher level of care, sometimes

necessitating coordination with external mental health resources, such as psychiatrists, hospital emergency services, or crisis intervention teams. These cases are distinguishable from the more routine consultations that deal with issues like academic stress or interpersonal conflicts, as they reflect a deeper level of psychological distress that can significantly impact the student's daily functioning, academic performance, and overall well-being.

Analysis of the Increase in Special Cases (2021-2023) The notable increase in special cases—rising from 4 in 2021 to 12 in 2023—raises important questions about the escalating mental health challenges faced by university students. Several factors likely contribute to this uptick, including the social, academic, and environmental pressures that students face, as well as broader societal trends that are impacting student mental health.

One of the most significant contributing factors to the rise in special cases is the lingering impact of the COVID-19 pandemic. Although the initial shock of the pandemic may have subsided, its long-term psychological effects continue to affect students. The isolation, uncertainty, and disruption caused by lockdowns, remote learning, and social distancing measures created an environment of heightened stress, anxiety, and depression among students. Many students struggled with the loss of social connections, disruption of academic schedules, and uncertainty about their futures in the wake of the pandemic. These stressors may have contributed to the increasing severity of mental health concerns, pushing more students to experience extreme emotional distress.

The pandemic-induced isolation, in particular, likely played a critical role in the rise of special cases. Students who were already prone to mental health issues may have faced exacerbated symptoms due to prolonged periods of isolation and limited access to in-person support. The lack of face-to-face interactions with peers and faculty members, combined with the overwhelming uncertainty about academic, social, and career prospects, may have deepened feelings of loneliness and hopelessness, leading some students to experience psychological crises that required more intensive intervention.

4. Conclusion

This study examined the trends in mental health issues among university students at a university from 2021 to 2023, revealing that mental health challenges are becoming increasingly complex and multifaceted. The data demonstrates a significant increase in the demand for counseling services, with consultation rates rising over the three-year period, particularly in response to heightened stressors related to academic pressure, career uncertainties, and emotional distress. These findings indicate that mental health concerns among students are not only more prevalent but are also intensifying in severity, leading to an increase in the number of special cases requiring more intensive interventions.

The types of issues students sought help for were diverse, including interpersonal relationship problems, emotional concerns such as anxiety and depression, academic pressures, and concerns related to career development. These trends were further compounded by factors such as increased social and academic pressure, the lingering effects of the COVID-19 pandemic, and growing awareness of mental health issues, all of which played significant roles in shaping the mental health landscape at the university. The rise in special cases—from 4 in 2021 to 12 in 2023—illustrates a concerning escalation in the severity of psychological distress among students, which calls for a more robust and tailored approach to mental health support.

Additionally, the study highlighted specific groups of students, such as female students, upper-year students, and those facing career pressures, who are particularly vulnerable to mental health challenges. These students experience unique stressors that may require specialized support and interventions. As universities seek to improve mental health outcomes, understanding these distinctive challenges is critical for developing more effective, targeted support programs.

Acknowledgement

Shenzhen Education Science 2023 Annual Planning Project (Research on the Development System of University Students' Psychological Resilience Based on Life Education, yb23041); Guangdong Provincial Department of Education Key Field Special Project (6021210075K); Model Courses on Curriculum Ideology and Politics in Guangdong Vocational Colleges (KCSZ04235); Guangdong Provincial Vocational Colleges Professional Guidance Committee Project for Light Industry and Textile Majors (Research on the Development Path and Practical Application of Digital Textbooks in

Vocational Education Based on Action Orientation); University Key Teaching and Research Project (Research on the Development Model, Path, and Practice of Digital Textbooks in Vocational Education under the Background of Digital Transformation), Zhou Haoli Lake Skill Master Studio.

References

- [1] Panchal U, Salazar de Pablo G, Franco M, et al. The impact of COVID-19 lockdown on child and adolescent mental health: systematic review[J]. *European child & adolescent psychiatry*, 2023, 32(7): 1151-1177.
- [2] Allen K-A, Kern M L, Reardon J, et al. Creating a sense of belonging in academia: challenges, facilitators, and implications for university leaders, staff and graduate students[J]. *Research Handbook of Academic Mental Health*, 2024: 436-458.
- [3] Crosnoe R. Contextualizing the social and educational journeys of adolescents within the life course[J]. *Journal of research on adolescence*, 2021, 31(4): 1135-1151.
- [4] De Lorenzo A and Rabaglietti E. Creativity Among Adolescents and Emerging Adults in the Post-pandemic Era: A Review of the Role of the School and University System[J]. *Theories – Research – Applications*, 2024, 11(2): 20-43.
- [5] Shaw B B. Transference Impact of Psychological Skills Training on the Academic Achievement and Character Development of Student Athletes[D]. *Concordia University Irvine ProQuest*, 2024. 31639781.
- [6] Lai M C. Mental health challenges faced by autistic people[J]. *Nat Hum Behav*, 2023, 7(10): 1620-1637.
- [7] Sinval J, Oliveira P, Novais F, et al. Exploring the impact of depression, anxiety, stress, academic engagement, and dropout intention on medical students' academic performance: A prospective study[J]. *Journal of Affective Disorders*, 2024.
- [8] Akiba D, Perrone M and Almendral C. Study Abroad Angst: A Literature Review on the Mental Health of International Students During COVID-19[J]. *International Journal of Environmental Research and Public Health*, 2024, 21(12): 1562.
- [9] Lu D. EFL Teachers' Optimism and Commitment and Their Contribution to Students' Academic Success[J]. *Front Psychol*, 2021, 12: 752759.
- [10] Shu K. Teachers' Commitment and Self-Efficacy as Predictors of Work Engagement and Well-Being[J]. *Front Psychol*, 2022, 13: 850204.
- [11] Hill M, Farrelly N, Clarke C, and Cannon M. Student mental health and well-being: overview and future directions[J]. *Irish Journal of Psychological Medicine*, 2024, 41(2): 259-266.
- [12] Liu S, Yang L, Zhang C, et al. Online mental health services in China during the COVID-19 outbreak[J]. *The Lancet Psychiatry*, 2020, 7(4): e17-e18.
- [13] Mathieu S L, Uddin R, Brady M, et al. Systematic review: The state of research into youth helplines[J]. *Journal of the American Academy of Child & Adolescent Psychiatry*, 2021, 60(10): 1190-1233.
- [14] Wadden T A, Tronieri J S and Butryn M L. Lifestyle modification approaches for the treatment of obesity in adults[J]. *Am Psychol*, 2020, 75(2): 235-251.
- [15] Brody C, Star A and Tran J. Chat-based hotlines for health promotion: a systematic review[J]. *Mhealth*, 2020, 6.
- [16] Matthews S, Cantor J H, Brooks Holliday S, et al. Mental health emergency hotlines in the United States: a scoping review (2012–2021)[J]. *Psychiatric services*, 2023, 74(5): 513-522.
- [17] Murray J K and Knudson S. Mental health treatment and access for emerging adults in Canada: a systematic review[J]. *Frontiers in Public Health*, 2023, 11: 1088999.
- [18] Fitzpatrick P J. Improving health literacy using the power of digital communications to achieve better health outcomes for patients and practitioners[J]. *Frontiers in Digital Health*, 2023, 5: 1264780.
- [19] Rahmawati A and Sujono F K. Digital communication through online learning in Indonesia: Challenges and opportunities[J]. *Jurnal AspiKom*, 2021, 6(1): 61-76.
- [20] Shankar V, Grewal D, Sunder S, et al. Digital marketing communication in global marketplaces: A review of extant research, future directions, and potential approaches[J]. *International Journal of research in Marketing*, 2022, 39(2): 541-565.
- [21] Milakis D and Müller S. The societal dimension of the automated vehicles transition: Towards a research agenda[J]. *Cities*, 2021, 113: 103144.
- [22] Merino M, Tornero-Aguilera J F, Rubio-Zarapuz A, et al. Body perceptions and psychological well-being: A review of the impact of social media and physical measurements on self-esteem and mental health with a focus on body image satisfaction and its relationship with cultural and gender factors[J]. *Healthcare (Basel, Switzerland)*, 2024, 14: 1396.

- [23] Eisenman D P and Galway L P. *The mental health and well-being effects of wildfire smoke: a scoping review*[J]. *BMC Public Health*, 2022, 22(1): 2274.
- [24] Carey R L, Bailey M J and Polanco C I. *How the COVID-19 pandemic shaped adolescents' future orientations: Insights from a global scoping review*[J]. *Current opinion in psychology*, 2023, 53: 101655.
- [25] Forbes V E, Chamberlin M D, Dusabejambo V, et al. *Education and Training Models for Remote Learning*[J]. *Hematol Oncol Clin North Am*, 2024, 38(1): 185-197.
- [26] Al Hamad N M, Adewusi O E, Unachukwu C C, et al. *Counselling as a tool for overcoming barriers in stem education among underrepresented groups*[J]. *Engineering Science & Technology Journal*, 2024, 5(1): 65-82.
- [27] Muhammad R. *The effectiveness of technology to improve educational counseling services: A systematic literature review*[J]. *Journal of Teaching and Learning*, 2024, 18(2).
- [28] Ramos G, Hernandez-Ramos R, Taylor M, and Schueller S M. *State of the science: Using digital mental health interventions to extend the impact of psychological services*[J]. *Behavior Therapy*, 2024.
- [29] Bahadori M, Yaghoubi M, Haghgoshye E, et al. *Patients' and physicians' perspectives and experiences on the quality of medical consultations: a qualitative study*[J]. *JBIR Evidence Implementation*, 2020, 18(2): 247-255.
- [30] Mcvey L, Fitzgerald M, Montague J, et al. *Experiences, impacts, and requirements of synchronous video consultations between nurses, allied health professionals, psychological therapists, and adult service-users: A review of the literature*[J]. *PLOS Digital Health*, 2024, 3(12): e0000654.