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Factors Driving User Experience Design Considering Mental Health Problems of Chinese College Students

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Abstract

This study explored the impact of critical user experience (UX) factors on contemporary Chinese college students' willing participation in mental health counseling services. Utilizing a mixed-method design, the study first identified key UX factors through a literature review and then developed a Likert-scale instrument to measure them within the specific context of student mental health services. A survey of 100 Chinese college students was conducted, and the data were rigorously analyzed using SPSS. The results showed that accessibility, personalization, and feedback significantly influenced participation in counseling services. These valuable insights offer actionable guidance for designing student-centered digital counseling platforms that enhance engagement, usability, and long-term mental health support effectively. The findings underscore the critical role of UX in fostering greater student willingness to seek and utilize these essential services.

Keyword : mental health, user experience factors, Chinese college students, service design

1. Introduction

In recent years, the mental health problems of Chinese college students have become increasingly prominent, and problems such as depression, anxiety, and excessive stress have occurred frequently in colleges and universities. Affected by academic pressure, employment competition, changes in the social environment, and other factors, more and more college students are facing severe mental health challenges [1][2][4]. Promoting college students to obtain mental health support is crucial to prevent the deterioration of potential psychological problems of these transitional youth as they enter adulthood [1-3]. Unfortunately, many mental health intervention services for this group of people face the problem of low user participation [4][5].

Therefore, exploring how to optimize mental health services for college students through user experience design and improve user participation is an important topic [4][5].

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This study aims to analyze and refine the user experience design elements of Chinese college students in the process of using face-to-face mental health counselling services from a design perspective, understand the psychological counselling service needs and pain points of college students through literature research and user survey methods, and then refine the design elements of mental health counselling services, improve students' participation in mental health services, and optimize the psychological counselling service experience for college students.

2. Literature review

2.1 Definition of mental health

In 2010, the World Health Organization defined mental health as: “Mental health is the foundation of personal well-being and effective functioning. It is not just the absence of mental disorders, it is the ability to think, learn and understand one's own emotions and the reactions of others. Mental health is a state of balance, both within and with the environment. Physical, psychological, social, cultural, spiritual and other interrelated factors participate in producing this balance.”

The Encyclopedia of Chinese Psychology defines mental health as Mental health, also known as mental hygiene, includes two meanings: first, it refers to mental health status. When an individual is in this state, he or she is not only in good condition, but also in harmony with society; second, it refers to the principles and measures to maintain mental health and reduce behavioral problems and mental illness. “The main factors affecting mental health include ecological environment, social environment (socio-economic, cultural customs, mass media), education level, work and study environment, and family environment.” Therefore, maintaining a good mental health state has positive significance for both individual college students and the collective and society.

2.2 Current situation of mental health problems among Chinese college students

Since the outbreak of the epidemic, the mental health of college students has become a social hot spot. It is reported that the higher the grade of Chinese college students from freshman to junior year, the higher the proportion of mental health problems. Among senior students, emotional problems account for as high as 47%; half of master's and doctoral students do not get enough sleep [6]. According to the 2020 Mental Health White Paper, 18.5% of college students have depression tendencies, of which 4.2% are at high risk of depression. 8.4% of college students have anxiety tendencies [7].

The “2021 Survey Report on Negative Emotions and Sleep Health Status of Chinese College Students” from the Blue Book of the China National Mental Health Development Report (2021-2022) shows that under the influence of the COVID-19 epidemic, mental health risks have risen to one of the top ten risks in the world.

The report studied 17,231 college students from the central and western regions with an average age of 20, focusing on the current status of emotional health and sleep health of college students in my country, and comparing the differences in health status among different population groups. The results showed that freshmen generally had two negative emotions, stress and depression, during the adaptation period, and the severity of both was relatively high. The detection rate of severe or above depression risk was 30.3%, and the detection rate of severe or above stress risk was 28.7%. However, for psychological counselling services for college students, although nearly 90% of college students knew that their school had a mental health center that provided free psychological counselling services to students, only 21.4% of college students had used psychological counselling services. Lack of understanding of the service and the inconvenience of the service were the main reasons why college students did not use the service [7]. Therefore, it is of practical significance to improve the mental health of Chinese college students by conducting user research on college students' mental health counselling services to increase college students' participation in psychological counselling services.

2.3 Current research of user experience design

User Experience was first widely recognized in the mid-1990s when it was proposed and promoted by user experience designer Donald Norman [8]. It studies the subjective feelings of users before, during, and after using a product, system, or service through scenarios, including the user's visual and auditory sensory experience, interactive experience, and psychological and emotional experience. The overall experience is valuable and meaningful [9].

As more user experience research is conducted, the definition and methods of user experience and other related theories are becoming more and more abundant. Among the many studies and theories on user experience, in order to comprehensively improve the quality of life of college students and meet the diverse experience needs of students in terms of mental health, domestic and foreign scholars have conducted relevant research on the user experience of mental health services based on students as the research subjects.

For example, HW Wong et al. studied the attitudes and behaviors of college students when using Thought Spot (a co-designed mental health application and online platform) to understand the factors

related to participation and user experience [10].

Olugbenga-Oti et al.'s study “Online Mental Health Interventions Designed for College Students: A User-Centered Perspective” [11], aims to study digital mental health interventions designed specifically for college students. It aims to summarize the published literature on digital mental health interventions that use a user-centered approach to develop interventions for college students.

Ryley Stevens et al.'s study “Improving the Effectiveness of Mobile Technology in Treating Mental Disorders through User Experience Design” [12], analyzed data from a conversation-based online anxiety cognitive bias correction training program to make recommendations to improve user experience and increase participation and program persistence.

Song Yiqin et al.'s “Research on the Design of College Students' Mental Health Services during the Epidemic”, based on the thinking mode and process of service design, used methods such as stakeholder maps, user experience maps, and service blueprints in service design to design an online service product “Yixin” for college students' mental health.

2.4 User experience factors for mental health service design

A qualitative study by Komokosravi et al., “Principles and elements of patient-centeredness in mental health services: A thematic analysis of a systematic review”, conducted a comprehensive review of existing literature and synthesized the principles of patient-centeredness in mental health services. The study systematically searched PubMed, Scopus, ProQuest, and Cochrane databases, screened 6,649 references, and analyzed and identified seven major user experience factors of patient-centeredness in mental health services: Accessibility. Being understood. Personalized support. Comfortable environment. Clear communication. Opportunity for feedback. Flexibility [13].

Accessibility means that users need services that are easy to find, book and use. For example, having a simple online booking system or clear instructions on how to get help can reduce frustration.

Being understood means that people feel better when counselors listen and understand their feelings without judging them. Empathy in every interaction is essential to creating a safe space.

Personalized support means that services that adapt to individual needs, whether it's dealing with academic pressure or personal difficulties, are more effective. Personalisation can come from tailored advice or matching clients with the right counsellor.

Comfortable environment means that whether it's a physical counselling room or an online platform, the environment should feel welcoming and calm. This helps users relax and focus on their mental health.

Clear communication means explaining the counselling process, expected outcomes and confidentiality measures in simple terms so that users feel informed and in control.

Feedback opportunities means allowing users to share their thoughts on the service through surveys or casual check-ins helps improve everyone's experience. It also shows that their opinions matter.

Flexibility means offering services that fit into people's busy lives, such as evening appointments or virtual sessions, making it easier for them to seek help.

Research shows that patient-centerdness is a complex approach in mental health services. Patient-centered elements promote positive mental health service outcomes, improve the quality of care, and ensure compassionate and effective mental health services [13].

3. Methodology and Survey Results

This study hypothesis that the above mental health counselling service experience factors are applicable to the mental health counselling service experience of contemporary Chinese university students. On the basis of the above experience factors, a Likert scale was designed to investigate the experience factors of mental health counselling services among Chinese university students.

In this study, a questionnaire survey was conducted among contemporary Chinese college students, and the Likert scale questionnaire data were obtained from 100 participants and analysed for reliability, validity, correlation and regression. The results were as follows:

Reliability analysis is a method to assess the authenticity of the data, from [Table 1].

[Table 1] Reliability Analysis of Questionnaire Survey

Items	Cronbach's Alpha	N of Items
Accessibility	0.851	4
Flexibility	0.866	4
Being understood	0.813	2
Personalized	0.86	4
Comfortable environment	0.823	3
Clear communication	0.822	3
Opportunities for feedback	0.713	2
Experience satisfaction	0.796	3

We can see that when the Cronbach's Alpha value of the scale is greater than 0.7, it means that the internal consistency of the multiple variables constructed by the scale is good; from the above table, we

can see that the Cronbach's Alpha results of the dimensions, the Cronbach's Alpha values are 0. 851, 0.866, 0.813, 0.86, 0.823, 0.822, 0.713, 0.796 respectively, which are all greater than 0.7, indicating that the internal consistency of the dimensions of the questionnaire is better, and therefore the reliability of the results of the survey is excellent.

Validity analysis is a method to assess the validity of experiments, using factor analysis for information enrichment research, firstly, we analyse whether the research data is suitable for factor analysis, as can be seen from [Table 2].

[Table 2] Validity analysis of research data

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.936
Bartlett's Test of Sphericity	Approx. Chi-Square	1756.464
	df	300
	Sig.	0

KMO is 0.936, which is greater than 0.6, and it meets the prerequisite requirements of factor analysis, which means that the data can be used for factor analysis research. As well as the data passed the Bartlett sphericity test ($p<0.05$), which means that the research data is suitable for factor analysis.

The data of correlation analysis between the variables is shown in [Table 3].

[Table 3] Correlation between experience satisfaction and factors

	Accessibility	Flexible	Understood	Personalized	Environment	Communication	Feedback	Satisfaction
Accessibility	1							
Flexible	.722**	1						
Understood	.683**	.766**	1					
Personalized	.736**	.525**	.581**	1				
Environment	.647**	.634**	.604**	.635**	1			
Communication	.691**	.570**	.550**	.748**	.582**	1		
Feedback	.689**	.651**	.623**	.580**	.547**	.555**	1	
Satisfaction	.863**	.753**	.702**	.755**	.664**	.702**	.741**	1

It can be seen that the correlation coefficient between experience satisfaction and accessibility is 0.863**, which is a very high correlation, indicating that accessibility is crucial for enhancing user experience satisfaction. Users being able to easily access a service or product is a prerequisite for them

to have a satisfying experience. The correlation coefficient between Experience Satisfaction and Flexibility is 0.753**, showing that Flexibility is also an important factor influencing satisfaction. Users expect the service or product to adapt to their changing needs and preferences. The correlation coefficient between Experience Satisfaction and Being Understood is 0.702**, indicating that users feeling understood and valued is a key factor in increasing satisfaction. When users feel that their individual needs and expectations are understood by the service provider, their satisfaction increases. The correlation coefficient between experience satisfaction and personalisation is 0.755**, indicating that personalised services or products have a significant impact on increasing user satisfaction [12]. Users are increasingly expecting customised experiences which can increase their satisfaction. The correlation coefficient between experience satisfaction and comfortable environment is 0.664**, indicating that a comfortable environment to use has a positive impact on overall user satisfaction. A comfortable environment can reduce users' discomfort and enhance their experience. The correlation coefficient between experience satisfaction and clear communication is 0.702**, and clear communication is important for enhancing user satisfaction. Users need clear instructions and information so that they can use the service or product effectively. The correlation coefficient between Experience Satisfaction and Feedback Mechanisms is 0.741**, showing the importance of effective feedback mechanisms for user satisfaction. Users need to know that their feedback is listened to and acted upon, which increases their trust and satisfaction. In the regression analysis as shown in [Table 4].

[Table 4] Regression analysis of research data

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.911a	.829	.816	.417
a.Predictors:(Constant),Feedback,environment, communication, Being understood, Personalized, Flexibility, Accessibility				

Feedback mechanism, comfortable environment, clear communication, being understood, personalisation, flexibility, accessibility as independent variables and experience satisfaction as dependent variable, the corresponding regression model was obtained using multiple linear regression analysis. The adjusted R-square of the model was 0.816, indicating that the model fit was good and the combination of independent variables could explain the dependent variable with 81.6% probability.

In the analysis of the validity of the model, we analysed the results based on the variance test in the regression fitting process as shown in [Table 5].

[Table 5] Model validity analysis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	77.591	7	11.084	63.876	.000b
	Residual	15.965	92	.174		
	Total	93.556	99			
a.Dependent Variable:Experience satisfaction b.Predictors:(Constant),Feedback,environment, communication, Being understood, Personalized, Flexibility, Accessibility						

The F-value of the model was calculated to be 63.876 and reached the significance level ($p<0.05$), which indicates that in the regression model, there is a significant linear correlation between at least one of the independent variables and the dependent variable, which means that the overall model passed the test of variance, and the model is valid.

The correlation coefficient analysis investigated the degree of correlation between the scalars, see [Table 6].

[Table 6] Correlation coefficient analysis

Coefficientsa[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.198	.155		1.277	.205
	Accessibility	.358	.075	.393	4.754	.000
	Flexible	.176	.072	.191	2.426	.017
	Understood	.015	.057	.019	.265	.792
	Personalized	.183	.071	.198	2.567	.012
	Comfortable	.021	.056	.024	.380	.705
	Communication	.045	.063	.050	.722	.472
	Feedback	.168	.060	.177	2.778	.007
a. Dependent Variable:Experience satisfaction						

The standardized coefficient (Beta) of accessibility is 0.393, the t value is 4.754, and the p value is less than 0.001. This shows that accessibility has a significant positive impact on experience satisfaction, and the impact is large. For every unit increase in accessibility, the experience satisfaction increases by 0.358 units on average.

The standardized coefficient (Beta) of flexibility is 0.191, the t value is 2.426, and the p value is

0.017. This shows that flexibility has a positive impact on experience satisfaction, but the impact is relatively small. For every unit increase in flexibility, the experience satisfaction increases by 0.176 units on average.

The standardized coefficient (Beta) of being understood is 0.019, the t value is 0.265, and the p value is 0.792. This shows that being understood has no significant impact on experience satisfaction, and it can be considered that there is no statistically significant correlation.

The standardized coefficient (Beta) of personalized is 0.198, the t value is 2.567, and the p value is 0.012. This shows that personalized has a significant positive impact on experience satisfaction. For every one-unit increase in personalized, experience satisfaction increases by an average of 0.183 units.

The standardized coefficient (Beta) of a comfortable environment is 0.024, the t-value is 0.380, and the p-value is 0.705. This indicates that a comfortable environment has no significant effect on experience satisfaction.

The standardized coefficient (Beta) of clear communication is 0.050, the t-value is 0.722, and the p-value is 0.472. This indicates that clear communication has no significant effect on experience satisfaction.

The standardized coefficient (Beta) of the feedback mechanism is 0.177, the t-value is 2.778, and the p-value is 0.007. This indicates that the feedback mechanism has a significant positive effect on experience satisfaction. For every one-unit increase in the feedback mechanism, experience satisfaction increases by an average of 0.168 units.

4. Discussion

The results of the entire study show that among the factors affecting the experience of mental health counseling services for Chinese college students, accessibility, personalization, and feedback mechanisms have a significant positive impact on experience satisfaction. Flexibility also has a positive effect, though less pronounced. Interestingly, being understood, comfortable environment, and clear communication did not yield statistically significant effects.

This outcome may be interpreted through the lens of cultural and contextual expectations. For instance, “being understood” may be implicitly assumed rather than explicitly sought after, especially in collectivist cultures where emotional disclosure is limited. Similarly, physical environmental factors such as comfort may be considered secondary to the responsiveness or personalization of the counseling interaction itself. These alternative interpretations highlight the importance of not overgeneralizing UX

metrics across different cultural or institutional contexts.

This interpretation aligns with UX studies in immersive digital environments, where physical and emotional discomfort-such as visual disorientation or wearing fatigue-has been shown to reduce user engagement and satisfaction in VR-based experiences [14]. A similar pattern was observed in the cultural sector, where online media advertisements-especially those delivered through SNS and platform banners-were shown to influence visitors' decisions to attend art exhibitions and contributed positively to their overall satisfaction [15].

From the questionnaire data, the correlation coefficient between experience satisfaction and accessibility showed a notably strong relationship. Accessibility in this context refers to the ease and timeliness with which mental health services can be accessed. This not only reflects current limitations in service infrastructure but also provides actionable insights for design improvement. Counseling platforms should prioritize adaptive feedback systems that adjust content and tone based on users' ongoing responses. Additionally, personalization features-such as culturally adapted avatars or interface language-can enhance emotional resonance and privacy assurance, which are essential concerns among young adult users.

As students progress into adulthood, their cognitive independence and emotional nuance expand. With this comes a greater expectation for autonomy, self-representation, and discretion in how mental health support is received. Therefore, culturally sensitive interaction design and privacy-centered service architecture should be emphasized in future implementations of digital counseling platforms for Chinese college students.

5. Conclusion

In summary, there is a strong correlation between mental health service experience factors and college students' willingness to actively participate in counseling services. Accessibility, personalization, and feedback mechanisms were identified as the most critical concerns among contemporary Chinese college students. These findings reflect not only the pressing challenges in the current mental health service infrastructure but also highlight the evolving priorities of student populations regarding emotional safety, self-determination, and interactive support.

As a contribution to the broader discourse on psychological services in China, this study positions UX-centered approaches as a meaningful direction for improving the accessibility, cultural relevance, and emotional resonance of mental health interventions. We recommend the integration of adaptive feedback

systems that respond to user progress and emotional states, along with mobile interface personalization that aligns with individual preferences and behavioral patterns. Such design strategies may help to foster long-term engagement and reduce the psychological stigma often associated with counseling.

Nevertheless, the relatively small sample size limits the generalizability of the findings, particularly with respect to regional disparities between urban and rural college populations. Future research should aim to expand sample diversity and adopt a multimethod approach. In particular, we propose the use of in-depth qualitative interviews to explore students' lived experiences and values in engaging with counseling platforms. Furthermore, longitudinal studies can help track changes in attitudes and usage behaviors over time, providing a more robust foundation for user-centered innovation in digital mental health services.

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