

Design Strategies for College Students' Loneliness

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Abstract: Education is the foundation. As the main body of higher education, the state has always been concerned with university education. In recent years, with the booming of education, the rapid increase of the scale of college students, and the development of society, the lack of material is no longer a problem for college students, but mental health problem has gradually emerged and become the main problem for them. This paper conducts an exploratory study on college students' loneliness from the perspective of design and uses the loneliness scale to conduct a questionnaire survey on college students to explore ways to alleviate loneliness. Finally, the paper proposes a design strategy to alleviate college students' loneliness.

Keywords: College students' loneliness; Loneliness scale; Loneliness design strategy

1. Introduction

Since the new century, with the rapid development of science and technology, people's life has become more comfortable and convenient, especially in the Internet era, which has completely changed people's way of life and satisfied their material requirements. However, there are also some psychological problems. The sense of loneliness is constantly emerging and has become a problem that cannot be ignored. In recent years, academia has paid a lot of attention to the problem of college students' loneliness and has gained certain research findings. However, the research on the combination of college students' loneliness and design is still lacking, and further research is needed.

2. Background Research on College Students' Loneliness

The word loneliness, which first appeared in the medical field, refers to individuals' abnormal interpersonal communication phenomena, such as weakened social skills, slow language expression, slow cognitive development, etc., and gradually develops into a disease. Later, the concept of loneliness was introduced into psychology. Robert S. Weiss [1] (1973) proposed that loneliness is a subjective psychological feeling or experience. Peplau and Perlman [2] (1982) defined loneliness as an unpleasant experience. Zhu Zhixian [3] (1989) believed that loneliness is a lonely and unpleasant emotion that people feel in a strange, closed, or special environment. Rokach [4] (2002) proposed that loneliness is a negative emotional experience. Huang Guoping et al. [5] (2016) proposed combining the content dimension with the time dimension, which can be divided into three types: emotional, developmental, and survival. Luo Guanglin et al. [6] (1999) found that the proportion of college students who often or occasionally felt lonely was as high as 83.9%. Pinqart [7] (2003) proposed that the stage characteristics of loneliness are affected by individual age and personality development stage. Zeng Xuemei et al. [8] (2010) measured the loneliness of college students and found that 67.42% of college students experienced moderate or higher loneliness. Shi Congrong [9] (2015) used the UCLA loneliness survey on college students and found that the post-90s generation had a higher degree of loneliness. Cheng Miaomiao [10] (2017) and others used the UCLA loneliness scale to investigate, and the analysis of the results showed that college students have a higher level of loneliness. Vivien S [11] (2014) found that the higher the loneliness, the more obvious social anxiety. Brett Friedle [12] (2015) found that people with higher loneliness are more likely to suffer from chronic diseases such as cardiovascular and cerebrovascular diseases. Chen Yixin [13] (2015) found that college students use alcohol, smoking, gambling, and other behaviors to reduce loneliness, which greatly impacts the body. Dai Ge [14] (2017) conducted a survey and found that the higher the loneliness score, the greater the

possibility of depression. McIntyre Jason C [15] (2018) noted that students with higher loneliness scores had higher levels of depression, anxiety and paranoia. Chang Xiangdong [16] (2019) found that the higher the loneliness, the worse the sleep quality. Ding Qian [17] (2019) found that the higher the loneliness of college students, the higher the degree of Internet addiction. Through the research of scholars at home and abroad, it can be found that loneliness is common among college students, and loneliness can bring immeasurable harm to the body, which is an urgent problem to be solved.

3. Design of Loneliness Questionnaire for College Students

Conducting in-depth design research on college students, we understand the actual situation of college students' loneliness. Meanwhile, the problem of college students' loneliness is analyzed in detail, and the reasons that affect college students' loneliness are found. The paper explores ways to alleviate loneliness from the perspective of design so as to find design opportunities.

Combining with the opinions of psychological experts, this scale references the UCLA loneliness scale and the children loneliness scale. In order to prevent the words "lonely" affect the measurement of college students, the questionnaire topic named "questionnaire about college students' living status", and the words "loneliness" and "negativity" in the non-scale questions are replaced. At the same time, according to the research of Li Yimin [18] (2006), the 20 items of the scale are divided into four dimensions, namely "social loneliness", "interpersonal loneliness", "self-loneliness" and "developmental loneliness". There are 5 questions in each dimension, and then the 20 questions are written out of order (Table 1). The 20 questions on the loneliness scale are divided into 4 levels, the number 1 means completely inconsistent, number 2 means somewhat inconsistent, 3 means somewhat agree, and 4 means completely agree. Using a scoring system, questions 2, 5, 7, 9, 11, 14, 16, 17, and 19 are scored in positive order, that is, 1=1 point, 2=2 points, 3=3 points, 4=4 Points; 1, 3, 4, 6, 8, 10, 12, 13, 15, 18, 20 questions are scored in reverse order, that is, 1=4 points, 2=3 points, 3=2 points, 4= 1 point, and add up the points at the end. The rating of loneliness is based on the UCLA loneliness scale, with points above 44: high loneliness; 39-44 points: generally high loneliness; 33-39: intermediate level; 28-33: generally low loneliness; below 28 points: Low degree of loneliness.

Table 1: Item classification of college students' loneliness scale

Classification	Item
Feeling of social loneliness	1.I think people around me have the right moral code
	3.I have confidence in the society
	4.I feel good about life
	5.I am not happy with social norms
	7.I do not think society is fair
Interpersonal loneliness	2.I can not trust anyone
	6. I have a harmonious relationship with others
	8. my interests and ideas are the same as those of the people around me
	10. I feel valued
	11. I feel like nobody really knows me
Feeling of self-loneliness	9. I feel shy
	12. I feel safe
	14. I get lonely
	15. I feel energized
Future development loneliness	16. I get anxious
	13. I am goal-oriented
	17. I think I'm procrastinating
	18. I can meet the requirements of my teachers or parents
	19. I am not satisfied with my present study and life
	20. I look forward to the future

4. Questionnaire Analysis of College Students' Sense of Loneliness

This questionnaire survey adopted online research, and a total of 681 questionnaires were taken back. Invalid questionnaires and questionnaires that did not meet the requirements were excluded, and 642 valid questionnaires were obtained. Among the 642 valid questionnaires, 59.25% were women

(380 respondents), which was higher than that of men (262 respondents). The respondents were freshmen to junior graduate students, of which 73.2% were undergraduates (470) and 26.8% were postgraduate students (172). From the data of the questionnaire: there are more female students than male students, more undergraduate students than postgraduate students, and more science students than liberal arts students. It can be seen that the questionnaire data is in line with the general background knowledge. From this aspect, the questionnaire is reliable.

It can be seen from Table 2 that the average loneliness score of the 642 questionnaires is 47 points, the standard deviation is 7.86, and the average value is greater than 44 points. The survey shows that college students are in a state of high loneliness. This state may be short-lived, but if there is no correct guidance, it is easy to form a long-term sense of loneliness. As a result, it will have a negative impact on the body and mind. Of the four dimensions, the average score for Self-loneliness was the highest (2.59), followed by Developmental Loneliness(2.40), then Interpersonal Loneliness (2.23), and the average value for Social Loneliness was the lowest, scoring 2.18 (in Table 2).

Table 2: Scores of loneliness of college students

		Average		The standard deviation
The feeling of social loneliness	1. I think people around me have the right moral code	2.02		0.737
	3. I have confidence in the society	1.98	2.1	0.767
	4. I feel good about life	1.89	8	0.730
	5. I am not happy with social norms	2.41		0.795
Interpersonal loneliness	7. I don't think society is fair	2.60		0.866
	2. I can't trust anyone	1.91		0.831
	6. I have a harmonious relationship with others	1.75	2.2	0.668
	8. my interests and ideas are the same as those of the people around me	2.55	3	0.727
Feeling of self-loneliness	10. I feel valued	2.34		0.711
	11. I feel like nobody really knows me	2.57		0.884
	9. I feel shy	2.73		0.822
	12. I feel safe	2.25	2.5	0.806
	14. I get lonely	2.76	9	0.857
	15. I feel energized	2.20		0.736
Future development loneliness	16. I get anxious	3.02		0.728
	13. I am goal-oriented	2.20		0.798
	17. I think I'm procrastinating	2.90		0.852
	18. I can meet the requirements of my teachers or parents	2.38	2.4	0.738
	19. I am not satisfied with my present study and life	2.86	0	0.786
Total	20. I look forward to the future	1.64		0.658
		47		7.86

5. Emotion-oriented Design Strategies for Relieving College Students' Loneliness

According to the manifestations and causes of college students' loneliness, it is concluded that college students' loneliness can be alleviated from an emotional point of view. The emotions here are mainly: obtaining happiness, recognition, and a sense of belonging. These emotions need to be obtained through design, and the characteristics of the "object" and "non-object" of the product should be emphasized. Interacting with the two can satisfy the emotional experience effect, alleviating college students' loneliness (Figure 1).

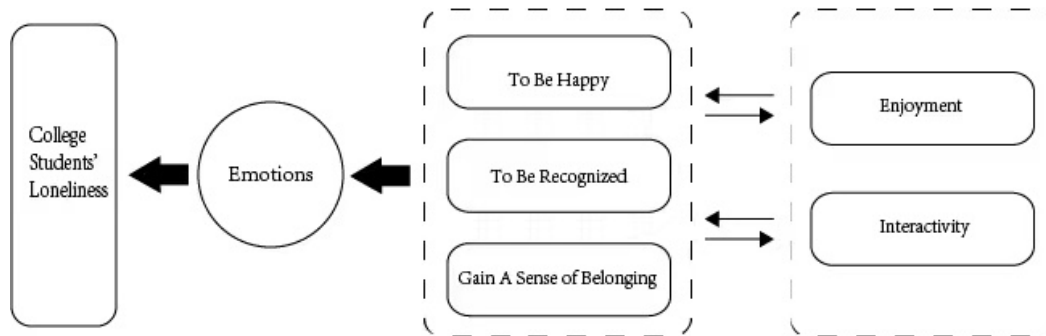


Figure 1 Design Strategy of Emotion-oriented Alleviation of College Students' Loneliness

5.1 Dedicated to "Things" - Pay Attention to Emotional Experience at the Material Level

From the perspective of design, to explore the strategies to alleviate the loneliness of college students, we should first pay attention to the characteristics of the product "object". Donald Norman [19] proposed three levels of emotional design: Instinct, behavior, and reflection are the behavioral levels, that is, the feeling of using the product. The emotional strategies to alleviate the loneliness of college students are placed on the object. Focus on the emotional experience from the product itself, and get a surface experience by using the product, so as to lay the foundation for the deep experience.

(1) Enjoyment

Loneliness is a kind of unpleasant psychological feeling. Temporary loneliness will make people anxious, lonely, and unwilling to communicate with people, while long-term loneliness will lead to depression, insomnia, and the seriously ill person will endanger life safety. The design for enjoyment can make users happy, stimulate people's interest, and have a wonderful experience in use, which is a kind of subtle feeling that can not be expressed in words. At the same time, interesting products can stand out among many products, attract people's attention, and arouse their desire to buy and use them.

(2) Interactivity

One of the reasons for college students' loneliness is the lack of good communication and interaction. Without good communication and interaction, receiving others' recognition, humanistic care and warmth are difficult, so they will lack a sense of belonging. In a word, interaction is a state of communication. An interactive product means communicating with the product and finally making users feel relaxed, which is conducive to alleviating the unpleasant psychological feeling of loneliness.

5.2 Expressing Feeling through Things -Obtaining Emotional Experience on a Non-material Level

Based on the three levels of emotional design proposed by Donald Norman [19], it rises from the behavioral level to the reflective level, that is, emotional experience from the material level to the non-material level. According to the survey, the reasons for college students' loneliness are as follows: lack of happiness, lack of recognition, and lack of sense of belonging, which needs to be alleviated by the deepest non-material emotional experience. The non-material emotional experience is difficult to trigger and needs to be expressed by things to alleviate loneliness.

(1) To Be Happy

Studying college students' loneliness is actually to study psychology with the user as the center. From the psychology of users, happiness is the panacea to solve all psychological problems, so obtaining happiness is an effective way to alleviate loneliness effectively. As mentioned above, interesting products can make people feel good and help relieve loneliness.

(2) To Be Recognized

Five-level needs theory of Maslow [20] (1999) noted that respecting needs, that is, high-level needs such as achievement, reputation, status, and promotion opportunities. Respect needs include not only a sense of personal accomplishment or self-worth but also the approval and respect of others. Recognition here is an extension of the esteem needs theory.

(3) Gain A Sense of Belonging

Belonging is a subjective feeling of being recognized and accepted by others or groups. For college students, it is mainly reflected in the first year of school or when they go to an unfamiliar environment. It is difficult to adapt to their roles for a while, and they are separated from the original group and social organization. Therefore, they cannot find an environment to relieve their inner thoughts. At this time, it is easy to cause a lack of belonging, resulting in the sense of loneliness.

6. Conclusion

With the rapid pace of life, college students' loneliness is getting worse. From the perspective of design, this study explores the loneliness of college students and uses the loneliness scale to conduct a questionnaire survey on the loneliness of college students. Finally, from the perspective of design, this paper combines college students' loneliness with design science and puts forward the design strategy of alleviating college students' loneliness with emotion as guidance, which provides ideas for alleviating college students' loneliness in the future.

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