Research on Anxiety of Chinese College Students under Ecosystem Theory

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Abstract. In the contemporary developing world, the progress of technology and society has made people more aware of the importance of mental health. As the newest member of society, college students are likely to experience various mental health problems, especially anxiety. Therefore, this paper focuses on investigating and analyzing the anxiety problems faced by Chinese college students from the perspective of ecosystem theory. In order to measure the level of anxiety and determine the relevant measures, the existing knowledge recognized in the published literature (self-assessment anxiety scale) was used. These anxiety problems are determined and checked according to the specific standards of Chinese college students, preparing them for future investigations and possible solutions. This study shows that anxiety is not only related to biological factors such as age and gender, but also related to personal surroundings. This shows the importance of solving anxiety problems as a whole. However, it is worth noting that this particular experiment has several limitations, which highlights the need for further research in this field. In general, this study provides a valuable starting point for future research on the anxiety of Chinese college students and provides insights into how the ecosystem affects the level of anxiety.

Keywords: Ecosystem Theory; Anxiety; Chinese College Students.

1. Introduction

1.1. Ecosystem Theory

The ecological theory was established in 1977 by the American anthropologist and ecological psychologist Bronfin Brenner, who also extended the theoretical framework to sociology, anthropology, psychology and other disciplines. In the theory of ecosystem, Bronfin Brenner positioned the individual at the center and divided the environmental factors affecting individual development into different types of systems: microsystem, mesosystem, external system, macro system and time system. Liu et al. pointed out in 2022 that microsystem is a system with which individuals directly contact, such as the behavior and speech of parents, the support and encouragement of friends, and the careful guidance of teachers [1]. The meso-system is the interaction of various elements in the micro-system, such as family-school interaction and cooperation between schools and enterprises. Whether they participate directly or not, the external system will affect personal development, such as the parents' workplace, the school's management committee, and the internship plan. The macro system is larger than other systems and represents a comprehensive world view including politics, law, culture and economy. In order to directly reflect the causes and countermeasures of anxiety, this paper focuses on the research of micro system, external system and macro system.

1.2. The Anxiety Issues of Chinese University Students

According to Coltrera (2018), anxiety can be defined as the physical and psychological response to threats, which is a normal phenomenon of self-protection mechanism [2]. Malik et al. (2022) put forward a view that anxiety is one of the most common mental health conditions affecting adolescents [3]. The physical symptoms of General Anxiety Disorder (GAD), including irritable bowel, excessive sweating, sleep difficulties, muscle tension, nausea and concentration problems, are very problematic for patients. Those who experience anxiety are often diagnosed with other mental health problems, such as depression, obsessive-compulsive disorder (obsessive-compulsive disorder), Attention

Deficit Disorder (ADD), Attention Deficit/Hyperactivity Disorder (ADHD), etc. This may be caused by the obstacle of obtaining necessary support and insufficient recognition of mental health diseases. Fu and Zhang (2023) found that the detection rate of anxiety risk in China was 15.8%, and the detection rate of anxiety risk in the 18-24 age group was significantly higher than other age groups in the adult population [4]. Xiao et al. (2021) proposed that in China, examinations are the basic method to determine whether students are eligible for further education and whether institutions and companies recruit employees [5]. Therefore, college students must face these difficulties. Nowadays, college students have become a psychologically vulnerable group, lacking the ability to cope with many motivating factors such as emotional problems, academic pressure and interpersonal difficulties, which may lead to mental illness and extreme behavior.

With the assistance of the Ecosystem Theory, the anxiety issues of Chinese university students will be identified and analyzed in this paper for future attention and possible solutions. Therefore, the following research questions were raised to proceed with this paper:

RQ1: What types of students in the sample face anxiety issues?

RQ2: Which ecosystem would promote the generation of anxiety?

RQ3: How to minimize anxiety problems?

The corresponding hypotheses were proposed to study and solve the research questions:

H1: Male senior students would face anxiety issues.

H2: Microsystems would be the main factor to generate anxiety.

H3: Hobbies and leisure activities can help relieve anxiety problems.

2. Method

2.1. Research Object

The research object of this study is 150 Chinese college students, including freshmen to seniors, regardless of majors, which means college students of all majors have participated in this study, which can better understand the anxiety of college students. Moreover, there are no regional restrictions on the subjects, and college students from any part of China can participate in this survey.

2.2. Questionnaire

For this purpose, a questionnaire was designed. Because the survey results generated by the questionnaire are easier to quantify, convenient for statistical processing and analysis, and are the fastest and most effective method of mobile data. The questionnaire is divided into three parts: the first part is personal data, the second part is the anxiety scale, and the third part is questions. Personal data include gender and grade. The anxiety scale is derived from the Self-Rating Anxiety Scale compiled by William W. K. Zung. The scale has become one of the most commonly used psychological measuring tools for psychologists, psychiatrists and psychiatrists, and can effectively judge a person's anxiety. The third part is to further understand the problem of anxiety. The problems include the environment and situation where anxiety is easy to feel, why anxiety is felt, and how to alleviate anxiety to the greatest extent.

2.3. Distribution of the Questionnaire

The questionnaire was distributed online through the Wenjuanxing program. The main communication channels are WeChat, qq and other social media. Since the sample group is located in different provinces and cities in China, offline distribution is not practical. The distribution time is 20 hours, and the number of recovered samples is 150. It can be seen that the recovery of the questionnaire is very efficient, which also reflects that Chinese college students are generally interested in anxiety topics.

3. Results

3.1. Female Senior College Students Are More Prone to Anxiety

Among the 150 data collected in the questionnaire, 85 men, accounted for 56.67%; 65 women, accounted for 43.33%. In order to study the first question (which types of students in the sample face anxiety problems), the author calculated the average anxiety index of men and women according to the data collected by SAS anxiety scale in the first part of the questionnaire. It was found that the average anxiety index of men was 29.2235 and that of women was 39.7846 (see Figure 1). This suggests that women are more likely to experience anxiety than men. It can be seen that hypothesis 1(Male students have a higher proportion of anxiety than female students) has not been confirmed.

Among the 150 data collected in the questionnaire, 55 freshmen, accounting for 36.67%; 32 sophomores, accounting for 21.33%; There are 46 junior students, accounting for 30.67%; There are 17 senior students, accounting for 11.33%. The author calculated the average anxiety index of students in each grade, and found that the average anxiety index of freshmen was 33.1273, sophomore was 39.8438, junior was 41.0217, and senior was 41.2353. It can be seen that senior students were the most anxious, and senior students were more anxious than junior students (see Figure 2). It can be seen that hypothesis 2(The proportion of anxiety of freshmen is higher than that of senior students) has not been confirmed.

The result of the study is that among Chinese college students, female senior college students are more prone to anxiety.

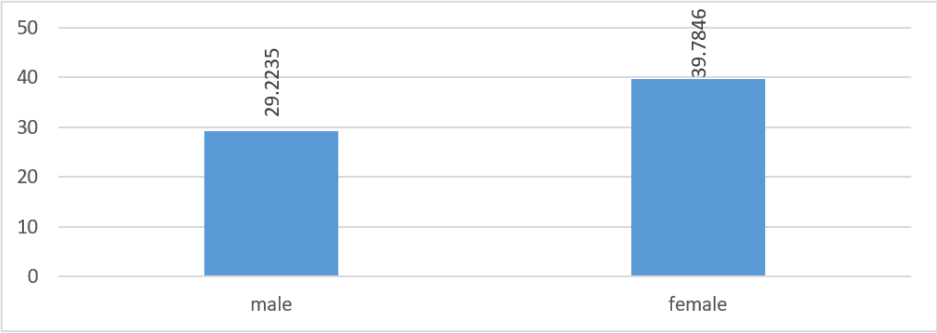

Fig 1. Anxiety index of men and women

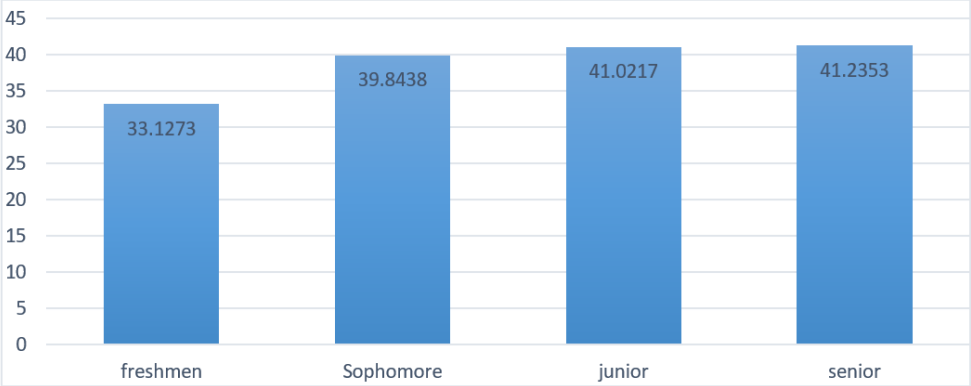

Fig 2. Anxiety index of students in all grades

3.2. The Micro-system Has the Greatest Impact on Anxiety

According to the results of the questionnaire, the micro-system has the greatest impact on anxiety. Of the 150 samples, 91 chose the direct source of stress. The data shows that the proportion of people who are easily distracted by the surrounding environment is about 60.67%. On the other hand, only 12 people believed that they were disturbed by their parents' unit or community atmosphere. Obviously, the exosystemystem has the lowest percentage in Table 1, accounting for 8%. Another point to note is that 47 people feel anxious in the social and cultural environment, and the social and

cultural proportion is relatively stable, at 31.33%. In contrast, the data of family, friends, peers, schools and the Internet ranked first. In addition, the students who choose the microsystem are almost twice as many as those who choose the indirect environment. In addition, the number of exosystems is significantly smaller than the other two aspects. Therefore, the research results once again confirmed that the microsystem is more likely to cause college students' anxiety. Therefore, the given hypothesis H2 is successfully verified.

Table 1. Sources of students' anxiety

Different factors	Number	Percentage	Different factors
Family, friends, peers, school, network	91	60.67%	Family, friends, peers, school, network
Parents' work unit, neighborhood community atmosphere	12	8%	Parents' work unit, neighborhood community atmosphere
Social and cultural environment	47	31.33%	Social and cultural environment

3.3. Way for College Students to Relieve Anxiety

According to the research results, nearly 55% of college students can relieve anxiety by participating in some distracting activities, such as travel and shopping, so as to temporarily get rid of anxiety, divert attention, and enjoy the present happiness. Nearly 40% of college students alleviate anxiety by adjusting their mentality and improving their ability. They look at the current situation rationally, analyze the reasons for their difficulties, and then work harder to improve themselves. In addition, 8% of students will seek help from friends to relieve anxiety. They confided to trusted friends for comfort and companionship. The researcher found that most college students are self-centered and begin to relieve anxiety from the micro system (see Figure 3). Through comparison, it can be concluded that the most important way for college students to relieve anxiety is to participate in various activities, and the number of respondents who choose this way is much more than other ways. The second is to adjust your mind to improve yourself. The least mentioned is to seek help from friends. It is noteworthy that families, schools and enterprises do not seem to play a corresponding role, which has been ignored in alleviating their anxiety.

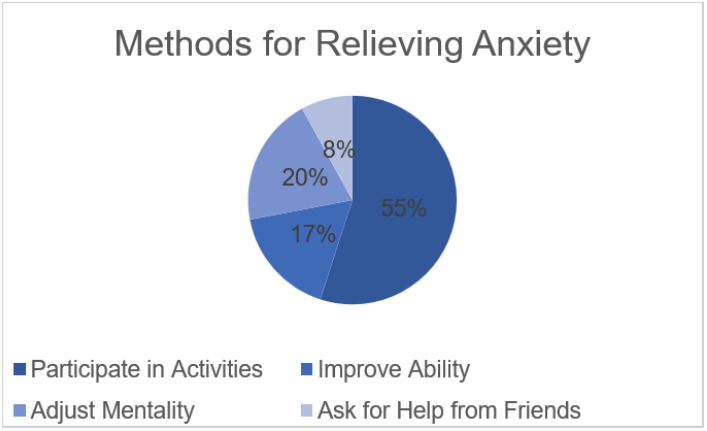

Fig 3. Methods for Relieving Anxiety

4. Discussion

4.1. Senior Women More Prone to Anxiety

The results show that women are more likely to be anxious than men, which may be due to the following reasons. With the cyclical and violent changes of introgen, the risk of anxiety will increase. The second is women's unique psychological factors. According to psychologists' research, when there is low mood, men like to get rid of their emotions by participating in sports activities; women are not willing to exercise, but repeatedly fall into their own emotions and experience pain passively and repeatedly. When faced with negative life events, women are more inclined to attribute the reason

to their lack of ability or bad character, thus falling into anxiety. Other studies have shown that women's ability to withstand stress is weaker than men's, and the generation of stress will lead to the generation of specific anxiety disorders. The last point that cannot be ignored is the social requirements for women and the impact of education on women. The requirements of this society for women are reflected in all aspects of life. On the one hand, the traditional stereotype of women has not reduced the requirements for women, such as the feminine appearance, and more of the role of caregivers in life. On the other hand, modern society has put forward new requirements for women in the workplace. This is meant to make more women have the ability to be independent, but it has brought new anxiety to women to some extent in reality: when the burden of women having to take care of their families more than men has not been relieved, the workplace will therefore discriminate against women. The social education of women makes women more inclined to choose to meet social standards than men. This is because when boys are encouraged to take risks, fight against authority and rebel independently, women receive the education of "must obey".

The results show that senior students are more anxious than junior students, which may be due to the following reasons. First of all, senior students face many choices and uncertainty about the future. Many senior students are still hesitant about their future after graduation. They have no clear goals for the future, and they are also confused about leaving school and entering society. This confused future makes them feel very anxious. Secondly, many senior students feel anxious about the gap between themselves and their peers. Why are sophomores more anxious than freshmen, juniors more anxious than sophomores, and seniors the most anxious freshmen enter school with a sense of freshness and yearning for the future? With the accumulation of academic and interpersonal pressure, there is slight anxiety in sophomores. In the junior year, with the increase in academic difficulty and the need to initially consider the planning after graduation, some students felt confused about this and deepened their anxiety. In the senior year, the confusion and uncertainty about the future reached their peak, at which time the anxiety was also the most obvious. In addition, Chang, J. - J., Ji, Y., Li, Y. - H., Pan, H. - F.,&Su, P. - Y. and others said in 2021 that COVID-19 has also brought a lot of anxiety to contemporary college students. Students were forced to lose the college life they should have, which caused many students' anxiety [6].

4.2. How Ecosystems Cause Anxiety

According to the research results, the author further analyzed the specific manifestations of anxiety from different systems. When it comes to the micro system, it includes the relationship between college students and their life circle, which is composed of family, friends, peers, schools and networks. For example, Runyu Jin found through research that when a large number of Chinese parents educate their children, their mothers often use the method of "excessive interference and excessive protection" to educate their children, while their fathers often use "severe punishment" to educate their children [7]. This leads to the children's inferiority complex, becoming sensitive to anxiety, and even increasing the probability of depression. Some parents spend most of their energy on providing financial support for their children, but after their children leave home to go to college, their attention to psychological aspects is far from enough. College students who are not supported psychologically are likely to suffer from a social anxiety disorder, which leads to personal fear and avoidance of social interaction, resulting in limited interpersonal relationships. Interpersonal communication is indispensable in college students' daily life. College students who lack interpersonal communication are likely to cause anxiety due to loneliness and other emotions.

Another factor that cannot be ignored is the daily activities of students at school. Academic achievement is the main part closely related to students' anxiety. This is related to whether students have the opportunity to continue their studies or obtain employment after graduation. Many students are anxious because they can't get the results they want, and many students will compare their own results with others, which increases the level of anxiety. Not only that, but they will also encounter different forms of challenges during their undergraduate education, especially a large number of group work, exams and homework that have brought them a lot of negative emotions. If they do not

deal with these emotions in a timely manner, they are likely to evolve into anxiety. It has to be mentioned that when students browse social networking sites and interact with social media, they will always find that many elites in different fields will express their views on the platform and show their excellent side. Therefore, many college students will compare themselves with them, and even set unrealistic goals to keep up with those online celebrities, resulting in anxiety. Qinxiu You said in 2021 that many students were negatively evaluated when browsing social networking sites, resulting in fear of negative evaluation, resulting in anxiety [8].

For the exo system, there is usually a comparison phenomenon. This means that neighbors and parents' colleagues often get together to compare whose children are smarter and more educated. This not only hurts students' self-esteem, but also makes them feel anxious and stressed.

In the macro system, the most common problem is that social pressure and talent competition bring a burden on students. The traditional idea is that a college degree is a reliable way to apply for a decent job that is better than manual labor. In fact, with the improvement of social education level, more and more people enter universities, so thousands of people compete for jobs after graduation. Because education despises the chain, some people may often feel inferior. Under the great pressure of high standards society and talent competition, students are easily overwhelmed and have extremely serious anxiety.

4.3. How to Minimize Anxiety Problems

According to the survey results, researchers will provide suggestions on how to alleviate college students' anxiety from the following three aspects.

First of all, from the perspective of the micro-system, researchers encourage parents and children to establish a good parent-child relationship and enhance their sense of belonging. Family is an important social ecosystem that affects individual psychological development. Family rearing style, parents' education level and parent-child communication will affect children's mental health. A good family environment plays a positive role in children's psychological growth. In modern families, many parents strive to create good material conditions for their children's growth and provide high-quality culture and education. However, they often neglect children's psychological growth, ignore their psychological changes, and pay less attention to actively guiding children to face a psychological crisis. College students may face many problems in learning, employment and emotion, and a large part of them are difficult to solve by themselves. When they face these problems that are difficult to solve temporarily, they often feel anxious. Parents need to observe carefully to understand their children's psychological state. Parents should encourage children to express their true ideas, listen carefully, and feel their confusion through their words and deeds. Then they should conduct a rational and comprehensive analysis with the child, skillfully guide the child to correctly view the various problems they encounter, and constantly enhance the child's sense of trust and belonging. At the same time, a positive and healthy family atmosphere can also help college students relax and face anxiety and challenges more optimistically. Through effective communication, the family can help children solve some problems, become their strong backing, and give children more courage to face the world. Therefore, the author believes that the emotional connection between parents and children should be strengthened to enhance children's sense of belonging and trust. In addition, according to the research of many researchers, the influence of music has a great effect on college students' anxiety, that is to say, listening to music can help alleviate anxiety [9]. Ping Yuan, Jian Lan and other researchers also proposed in 2009 that exercise plays a great role in alleviating anxiety [10]. Therefore, from the perspective of college students themselves, when they feel anxious and unable to restrain themselves, they may try listening to music or doing sports, which can greatly alleviate anxiety.

Secondly, from the perspective of the external system, it is necessary to build an education system for schools, families and enterprises. College students have mastered a lot of knowledge and skills in school, but most of them stay in textbooks and lack practical experience. This makes it difficult for them to apply what they have learned to practice when they first enter the workplace, and their psychology faces a huge gap in reality. On campus, many students' social relations are limited to the

students and teachers around them. They lack an understanding of social interpersonal relations and social rules, so they face many unknown difficulties. This requires schools and enterprises to unite and jointly carry out relevant social and professional experience activities. In this way, students can enter the society earlier, feel real life, and learn to correctly look at various problems that may arise in the future. College students need to establish a healthy outlook on life and values, which cannot be separated from specific practical activities. They cannot stay in the ivory tower like birds in cages, but should approach life and enter reality. In addition, enterprises can integrate teaching resources, set up skills training courses in the community, provide personal development opportunities for people in need, and create more employment opportunities. Catalano, J. D. proposed in 2022 that the important role of schools should not be ignored [11]. As an important micro-system, colleges and universities play an important role in alleviating college students' employment anxiety. An inclusive, safe and loving campus environment can play a positive role in students' academic and psychological development. Therefore, schools should attach importance to the construction of the campus cultural environment, strengthen mental health education, and guide students to establish a correct outlook on life, values and the world. Schools should create an active campus atmosphere, encourage students to actively participate in campus activities, have the courage to innovate, enhance students' self-confidence, and relieve psychological pressure. In addition, schools should also attach importance to the teaching and training of social workers and provide more employment support for college students. Therefore, the author believes that it is necessary to coordinate the roles of schools, families and enterprises, integrate educational resources, and create a better development environment for college students.

Finally, from the macrosystem, the country should improve laws and regulations, improve the policy guarantee system, and provide support for the healthy development of college students. The differences between urban and rural areas in household registration system, employment system, social security and the welfare system have invisibly led to many differences between urban and rural students in interpersonal relationships, job selection and self-adaptation. For example, some rural college students face difficulties such as family poverty and parents going out to work, which are more likely to breed negativity, inferiority and anxiety. Faced with this situation, the government should formulate targeted employment policies to help college students better understand and grasp employment opportunities, provide more employment support for college students in poor and remote areas, and formulate preferential policies to help them tap their own value and create more conditions for their successful employment. At the same time, improve the social security and welfare system, reduce worries for college students and provide more effective support. To some extent, these can effectively alleviate the employment pressure of college students and help them find themselves better and achieve themselves. In addition, the country should also improve relevant laws and regulations, effectively guarantee education equity, and provide students with more equal development and employment opportunities. The country should let college students have confidence in the employment environment, pay more attention to self-improvement and meet challenges calmly. At the same time, legislation will promote the development of psychological education, constantly improve college students' psychological education, guide college students to cultivate a more positive and healthy mentality, and cultivate college students to form a correct outlook on life, values and world outlook. Therefore, it is very important to improve relevant policies, laws and regulations, which plays an important role in ensuring the employment of college students and alleviating their employment pressure.

5. Conclusion

Through the survey, the study found that among Chinese college students, female college students are more prone to anxiety, which is inconsistent with the assumption that male college students will face anxiety problems. This may be due to estrogen causing women's mood changes. There is also sporadic evidence that women's ability to withstand pressure is not as good as men's, which may lead

to psychological disorders in women. Social needs are also an important factor affecting the process of women's education. However, research has proved the hypothesis that senior students are more prone to anxiety. The result may be due to the special situation of senior students. The results also show that many students attach great importance to psychological adjustment and psychological problem solving, and many students believe that hard study can change the situation of great psychological pressure.

Inevitably, this study has some limitations. First of all, the results may be affected by China's national conditions, so they may not be suitable for other international scenarios, and may not extend to other countries. Secondly, because the age group involved in the study is "college students", the research results may not be suitable for describing the psychological status of students at other academic levels. For future research, the researchers can analyze the root causes of anxiety of Chinese college students, and find a solution to reduce the tension of Chinese college students. Secondly, the method designed may not be sufficient to thoroughly investigate the problem. A single research method may cause misunderstanding between researchers and participants in this study.

In order to apply the current research, an effective and satisfactory method can be developed to minimize the anxiety of Chinese college students. For Chinese college students, when they are under great pressure, various decompression methods can be used as their reference to help them overcome psychological problems. For teachers and parents, through research, they can understand the source of pressure and integrate the decompression methods into the classroom and family in an appropriate way. In addition, schools and governments should also pay more attention to students' mental health problems and formulate corresponding policies to help students alleviate anxiety.

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