

The Relationship between the Positive Psychological Quality of College Students and the Psychological Impact of Epidemic Situation

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ABSTRACT

Cultivating positive psychological quality of college students is an important educational content in ideological and political education of colleges and universities. Improving the positive psychological quality of college students is not only beneficial to the improvement of college students' psychological health, but also an important prerequisite for cultivating creative talents with sound personality. Therefore, we conducted a study on college students in Beijing to investigate the relationship between positive psychological qualities of college students and the negative emotions perceived by college students in the face of the epidemic, so as to make effective suggestions to enhance the positive psychological qualities of college students, prevent college students' psychological problems and develop positive mindset through mental health education and other means. In this study, the Positive Psychological Quality Scale and Depression Anxiety Stress Scales-21 developed by Professors Meng Wanjin and Guan Qun were used to design questionnaires for college students in Beijing universities. 216 questionnaires were collected, and based on the results of the collected questionnaires, data statistics were conducted on the recovered samples. (1) The higher the positive psychological quality, the lower the perceived negative impact of the epidemic, and the lower the level of depression, anxiety and stress. (2) In terms of the impact of the epidemic on individual college students, the epidemic has affected their learning style, lifestyle, and interpersonal relationships to different degrees. (3) From the analysis of the degree of fear of the epidemic, college students have accepted the existence of the epidemic without showing too much panic reaction. (4) In terms of the ways in which college students should cope with the epidemic, there are various ways, such as exercising, talking to relatives or close friends, meditating and relaxing, and receiving psychological counseling.

How to cite this paper: Maryamgul Abdugine | Yusup Rouzi | Amina Yusun | Abudula Mahmut | Xiaoqian Liu "The Relationship between the Positive Psychological Quality of College Students and the Psychological Impact of Epidemic Situation" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-6, October 2022, pp.2033-2040,



URL:
www.ijtsrd.com/papers/ijtsrd51969.pdf

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KEYWORDS: college students; positive psychological quality

1. INTRODUCTION

In recent years, the spread of the Newcastle Pneumonia epidemic in China has greatly disrupted the daily life, study methods and study rhythm of school students, causing serious impacts on them and, to a certain extent, leading to changes in the mentality and psychological panic of some students. Therefore we have chosen the topic of "Research on positive social attitude of college students in the post-epidemic era and the cultivation path of it: a case study in Beijing" to conduct a basic study combining theoretical and applied research, with the aim of investigating the relationship between positive

psychological qualities of college students and the negative emotions they perceive when facing the epidemic, so as to The purpose of the study is to investigate the relationship between positive psychological qualities and negative emotions perceived by college students in the face of the epidemic, so that effective suggestions can be made to improve the positive psychological qualities of college students, prevent college students' psychological problems and develop a positive mindset through mental health education. It is very important to cultivate and enhance the positive

psychological qualities of college students in the context of the New Coronary Pneumonia epidemic, and it also has realistic and vivid cultivation materials [1]. we will conduct a survey for college students in Beijing area universities.

1.1. Aspects of positive psychological qualities of college students.

In recent years, theoretical research and practical changes in mental health education of college students have gradually matured and the results have gradually increased. Social positive psychology advocates the study of people's positive, positive psychological qualities, which allows researchers to explore various psychological factors that can promote positive psychological qualities and produce positive states in many aspects.

In his Introduction to Positive Psychology, Seligman argued that "Positive personal trait" consists of subjective well-being, optimism, happiness, and self-determination. Two years later, he used the term "Positive character" and considered virtue and strength as the core of positive qualities of individuals.

In China, in 2005, Professor Wang Xiyong of Capital Normal University proposed the "positive psychology education" model and began to introduce positive psychology into the domestic psychological research field. In 2009, Professors Meng Wanjin and Guanqun used the term "positive psychological quality" for the first time and proposed the multidimensionality of positive psychological quality. After 2010, Professors Meng Wanjin and Guanqun developed the Positive Psychological Qualities Scale for Chinese College Students based on the measurement of a large sample and the actual situation in China [3]. The survey results of the questionnaire showed 20 positive qualities in six dimensions, including: cognitive, interpersonal, emotional, fairness, moderation, and transcendence six dimensions of a total of 20 positive psychological qualities.

1.2. The impact of the epidemic on college students

The sudden arrival of the epidemic caused college students to change from face-to-face classes at school to online classes. Many college students were experiencing online classes for the first time, and because of the irregularity of their work and rest during the holidays, they had a lot of discomfort with online classes, which in turn had an impact on their emotional state. At this time, it is important to cultivate positive psychological qualities in college students, to cultivate the ability to distinguish right

from wrong, and to guide students to establish positive psychological qualities such as self-confidence, optimism, and cheerfulness, so that they can face unexpected events without panicking and can respond objectively, rationally, and positively to the situations we face [2].

1.3. Positive psychological qualities & the emotional impact of the epidemic on college students: the relationship between them

According to the results of the existing studies, although the overall positive emotion of the epidemic is higher than the negative emotion of college students, their tension is significantly higher. In addition, the greater the self-perception of college students affected by the epidemic, the higher the intensity of their tension. The negative emotions of college students, such as nervousness, will have a negative impact on their physical and mental health, reduce their interest in learning and learning effectiveness, and hinder their interpersonal interaction. Therefore, scientific strategies should be adopted to help college students manage and regulate their emotions and respond positively and effectively to the impact of the epidemic[4].

2. Method

This study mainly adopts literature method, questionnaire survey and mathematical and statistical method. The questionnaires were designed online through Questionnaire Star, including the Positive Psychological Quality Scale for College Students, Depression Anxiety Stress Scales-21 and the self-administered Epidemic Impact on College Students Scale, and the questionnaires on positive psychological quality were forwarded to college students of universities in Beijing through WeChat groups and friend circles to eliminate the missing answers and The questionnaires were eliminated to ensure the reliability of the data. Finally, the current situation of positive psychological quality of college students is summarized, and then the cultivation path of positive psychological quality of college students is innovated.

2.1. Subjects

In this study, 225 questionnaires were collected, and 216 valid questionnaires were obtained after eliminating the invalid questionnaires such as missing answers and choosing the same question in all questions. Among them, 72 were male students, 144 were female students, 44 were freshmen, 54 were sophomores, 82 were juniors, 30 were seniors, and 6 were postgraduates.

Table 1 Basic information of survey respondents

Variables		Number of people	Percentage (%)
Gender	Male	72	33.3
	Female	144	66.7
Year	Freshman	44	20.4
	Sophomore	54	25.0
	Junior	82	38.0
	Senior	30	13.9
	Graduate	6	2.8

2.2. Research tools

2.2.1. Positive Psychological Quality Scale for College Students

In this study, the Positive Psychological Quality Scale for Chinese College Students developed by Meng Wanjin and Guanqun was used to measure. According to Meng Wanjin et al.'s study, the reliability of this questionnaire was found to be good [5]. This questionnaire has a total of 62 questions divided into six dimensions: cognitive, affective, interpersonal, justice, moderation, and transcendence. The questionnaire is scored on a 5-point scale according to "very much like me", "more like me", "average", "less like me", "very like me", "more like me", "average", "less like me" and "very unlike me", which are scored as 1, 2, 3, 4 and 5 respectively. Higher scores of positive entries indicate higher resolution psychological quality of college students, and higher scores of negative entries indicate lower positive psychological quality of college students.

2.2.2. Depression Anxiety Stress Scales-21

It consists of three subscales with 21 questions to examine the degree of individuals' experience of negative emotions such as depression, anxiety, and stress, respectively, and the reliability of this questionnaire was found to be good according to Gong Shu et al [6]. A 4-point scale of 0-3 was used, with 0 being not met and 3 being met or always met, and the sum of the 7 item scores of each subscale multiplied by 2 was the score of the subscale, which ranged from 0-42, with higher scores indicating more severe depression, anxiety or stress.

2.2.3. Impact of the epidemic on college students

The four main components of the scale are the fear of the epidemic, the impact of the epidemic on college students, the stress response of college students to the epidemic, and the way college students cope with the impact of the epidemic. Fear of the epidemic was measured by a 5-point scale ranging from "not at all afraid" to "very afraid" of the epidemic. The impact of the epidemic on college students was measured by 6 questions on a 5-point scale, which was used to investigate the impact of the epidemic on college students' emotions, sleep, physical health, study, life and interpersonal relationships. The degree of university students' stress response to the epidemic consisted of 7 questions, which investigated the degree of stress response to the epidemic as an external stressful event, using a 5-point scale. Multiple-choice questions were used to investigate the types of coping methods used by college students to cope with the effects of the epidemic.

3. Results

3.1. Descriptive statistics

3.1.1. Positive psychological quality of college students

The results of the study show (see Table 2) that the average score of positive psychological quality of college students in this survey is 2.67, the average score of cognitive dimension is 2.63, the average score of interpersonal dimension is 2.74, the average score of emotional dimension is 1.98, the average score of justice dimension is 2.63, the average score of moderation dimension is 2.59, and the average score of transcendence dimension is 2.68. Compared with the previous results, the average score of cognitive, interpersonal, justice and transcendence dimensions in this study is 2.67. Interpersonal, justice, and transcendence dimensions differed more, and the moderation dimension did not differ much [7].

Table 2 Scores on the Positive Mental Quality Scale for College Students

Variables	Mean	Variance
Cognitive dimension	2.63	0.426
Interpersonal dimension	2.74	0.354
Emotional dimension	1.98	0.706
Fairness dimension	2.63	0.382

Moderation dimension	2.59	0.432
Transcendence dimension	2.68	0.436
Total positive psychological quality score	2.67	0.347

3.1.2. Depression-anxiety-stress self-assessment

The results of the study show (see Table 3) that the average depression score of college students in this survey was 14.95, with 43 mild depressions, 69 moderate depressions, 39 severe depressions, and 12 very severe depressive manifestations. The average score of anxiety self-assessment scale was 15.12, including 28 people with mild anxiety, 67 people with moderate anxiety, 39 people with severe anxiety, and 59 people with very severe anxiety. The average score of the stress scale was 13.68, 57 people had mild stress, 25 people had moderate stress, and 7 people had severe stress.

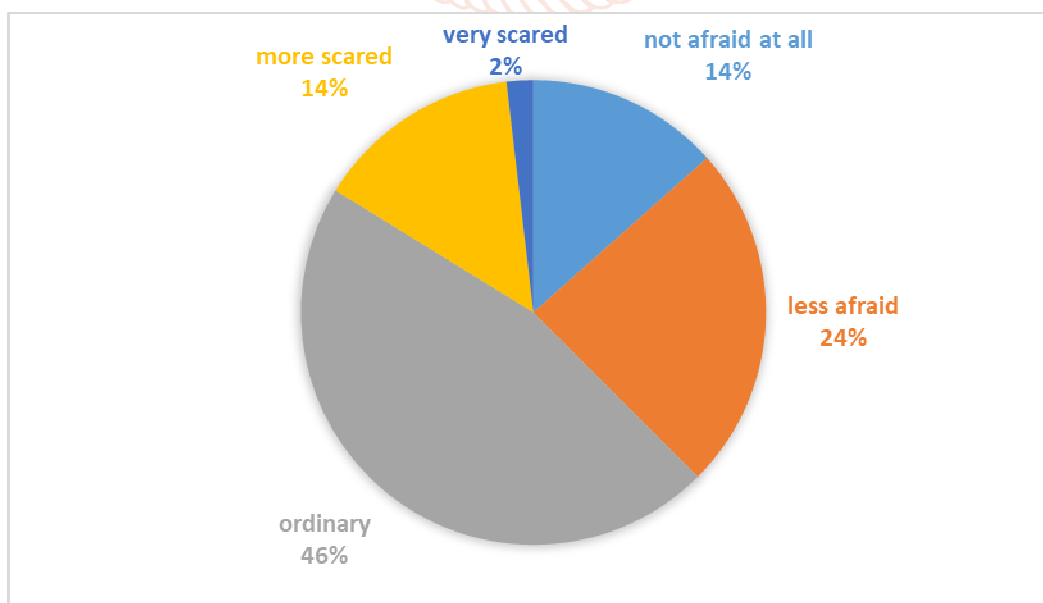
Table 3 Scores on the depression-anxiety-stress self-assessment scale

Variables		Number (person)	Percentage (%)	Mean	Variance
Depression	Normal	53	24.5	14.95	39.835
	Mild	43	19.9		
	Moderate	69	31.9		
	Severe	39	18.1		
	Very severe	12	5.6		
Anxiety	Normal	23	10.6	15.12	37.437
	Mild	28	13.0		
	Moderate	67	31.0		
	Severe	39	18.1		
	Very severe	59	27.3		
Stress	Normal	127	58.8	13.68	30.155
	Mild	57	26.4		
	Moderate	25	11.6		
	Severe	7	3.2		

3.2. Degree of impact of the epidemic

3.2.1. Fear of the epidemic among college students

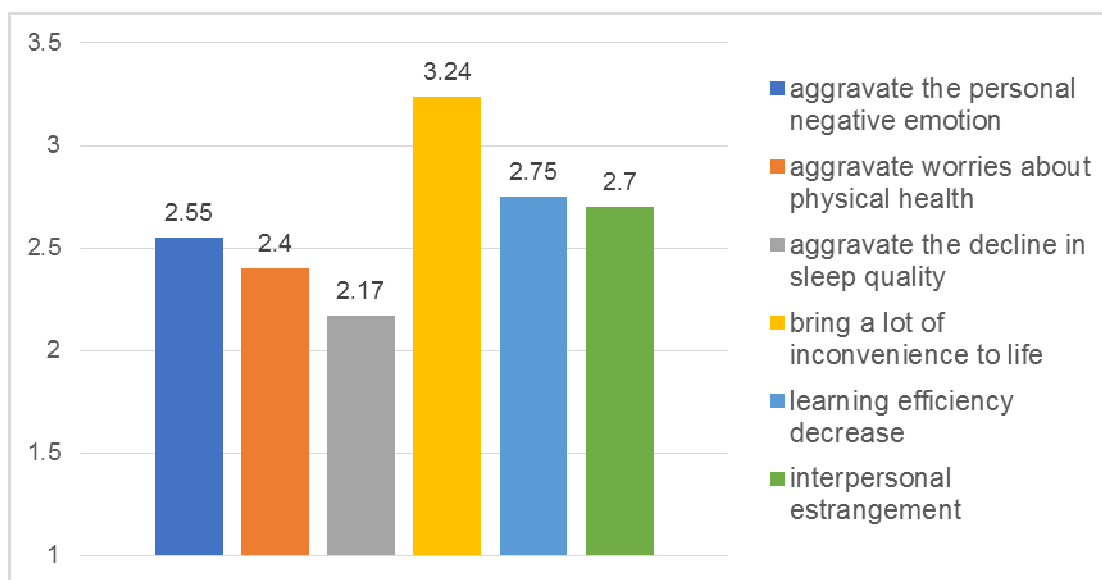
The survey results show that the average score of college students' fear level of the epidemic is 2.67, in which most of them show no fear or average fear of the epidemic, and only 16% of them indicate that they still have fear of the epidemic at present (Figure 1). From fear to return to rationality to active participation is the general change of college students' mindset during the epidemic. College students served as volunteers for grassroots epidemic prevention, which reduced the pressure on grassroots staff and played a pioneering role.



3.2.2. The degree of influence of the epidemic on individual college students

The average score of individual impact of the epidemic on college students was 2.63, and the degree of impact, in descending order, was: much inconvenience to life (3.24), decrease in study efficiency (2.75), alienation from

interpersonal relationships (2.70), increase in negative personal emotions (2.55), increase in worries about physical health (2.40), and decrease in sleep quality (2.17), as shown in Figure 2. college students to shift from face-to-face classes at school to online classes. Many college students developed many discomfort with online classes, which in turn had an impact on their emotional state. A study by Zhao Bo et al. showed that students felt more strained due to limited software capacity, which affected the online learning state, and because teachers assigned more homework than in offline instruction [8]. The learning atmosphere without face-to-face teaching makes students' learning efficiency drop to the bottom. 2020 In September, as the epidemic situation improved, various universities started to open and close their schools one after another, which made students communicate less and intensified the anxiety and depression feeling. A study by Jia-Yan Xu et al. showed that studying at home during the epidemic made college students have more contact with their families, but long periods of time together could also bring conflicts [9]. Therefore, we feel it is necessary to pay special attention to the situation of college students staying at home.



3.2.3. Degree of stress reaction of university students to the epidemic

Stress reaction refers to the specific reactions that individuals show when they are subjected to strong stimuli or stressful events from the internal or external environment, which can even cause stress disorders, such as traumatic stress disorder, if the stressful event experienced is excessively strong.

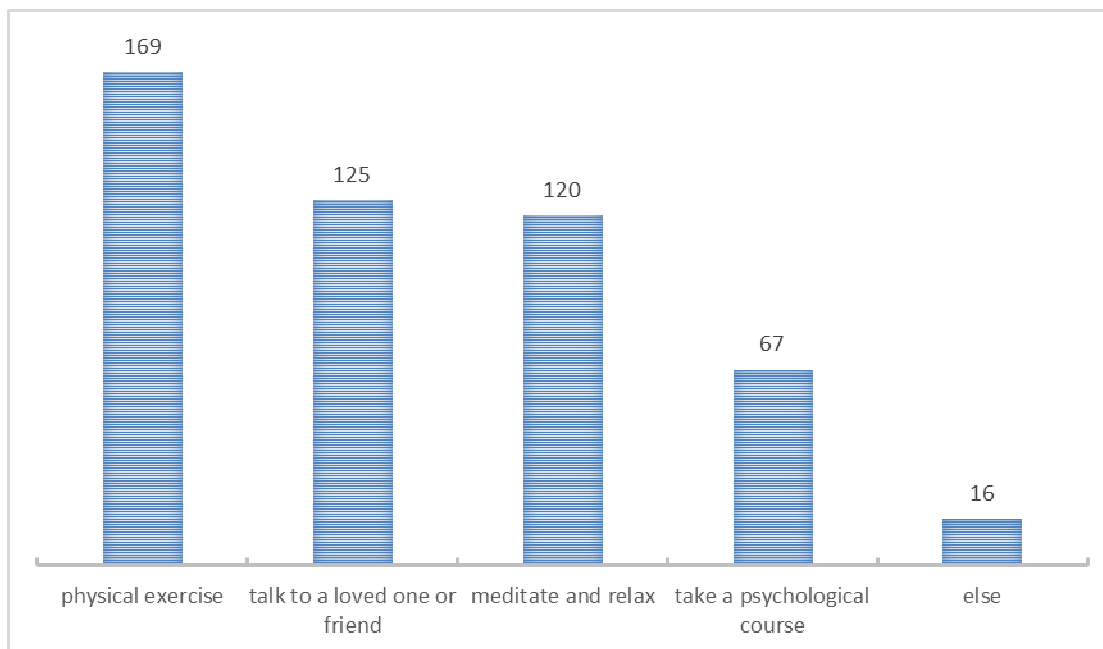
The average score of the degree of stress reaction to the epidemic among college students in this survey was 2.63, and the three highest scoring stress behaviors were "wishing to leave the epidemic area and go to a place where the disease is not endemic," "feeling that the epidemic will repeat itself again," "wish to stock up very much food and medicine". The specific results are shown in Table 4.

Table 4 Level of stress response to the epidemic

Variable	Mean	Variance
Feeling that the epidemic will happen again	2.83	1.566
Things around me always remind me of the epidemic	2.54	1.440
Want to leave the epidemic area and go to a place where the disease is not prevalent	2.99	1.642
Wish to stock up on very large amounts of food and medicine	2.77	1.425
Suspect that people around me may be the ones infected with the new coronavirus	2.33	1.312
Avoid contact with other people, believing that contact increases the risk of infection	2.53	1.413
Always search for information related to NIV on the Internet uncontrollably	2.44	1.391
Total stress response score to the outbreak	2.63	0.834

3.3. Ways of coping with the epidemic

As shown in Figure 3, among the 216 college students surveyed, 169 chose to cope with the impact of the epidemic by exercising, 125 chose to talk to their relatives or close friends, 120 relaxed through meditation, and 67 attended psychological courses or received psychological counseling to alleviate the emotional impact of the epidemic. Others chose to relieve their negative emotions from the epidemic by doing something they were interested in, memorizing words, watching movies and going out to play, reading, having fun, and swiping their phones.



3.4. Analysis of the relationship between positive psychological qualities and negative emotions under the epidemic

3.4.1. Correlation analysis

The results of correlation analysis of all variables are shown in Table 5. Positive psychological quality scores were significantly negatively correlated with depression, anxiety and stress (-0.37, -0.31, -0.37), as well as with the degree of fear of the epidemic, the negative impact of the epidemic on the individual and the stress response to the epidemic (-0.23, -0.34, -0.32), while they were significantly positively correlated with the way of coping with the epidemic. This indicates that the higher the level of positive psychological quality, the lower the perceived negative impact of the epidemic, and the more coping styles, the lower the level of depression, anxiety and stress.

The degree of fear of the epidemic, the degree of impact of the epidemic on individuals, and the stress response to the epidemic were also significantly and positively correlated with depression, anxiety, and stress, indicating that the higher the perceived negative impact of the epidemic, the higher the level of depression, anxiety, and stress among college students. Epidemic coping style scores were significantly negatively correlated with depression and stress scores (-0.17, -0.16), while they were not significantly correlated with anxiety, indicating that college students who used more types of epidemic coping styles (e.g., exercise, relaxation meditation, confiding, etc.) to relieve their emotions had lower levels of depression and stress, but not significant relief of anxiety states.

Table 5 Results of correlation analysis

Correlation	1	2	3	4	5	6	7	8
1. positive psychological quality	-							
2. depression	-0.37**	-						
3. anxiety	-0.31**	0.90**	-					
4. stress	-0.37**	0.88**	0.89**	-				
5. fear of the epidemic	-0.23**	0.23**	0.24**	0.23**	-			
6. impact of the epidemic on individuals	-0.34**	0.37**	0.37**	0.39**	0.43**	-		
7. epidemic stress response	-0.32**	0.41**	0.41**	0.45**	0.52**	0.76**	-	
8. epidemic response mode	0.19**	-0.17*	-0.11	-0.16*	-0.08	-0.05	-0.07	-

Note: ** indicates correlation significance <0.01, * indicates correlation significance <0.05

3.4.2. Between-group analysis

For depressed mood, the study subjects were divided into normal group (below 9 points), mild to moderate depression group (10-20 points), and major depression group (above 21 points), respectively, according to the self-rating scale scores, and the positive psychological quality scores were compared among the three groups of subjects. As the results in Table 6 show, there was a significant difference in the positive psychological quality scores of the three groups of college students with different levels of depression ($F=21.734$), and the post hoc two-by-two analysis showed that the positive psychological quality scores of the normal group were

significantly higher than the mild to moderate depression group ($\text{sig}=0.006$), as well as the major depression group ($\text{sig}=0.006$), and the scores of the mild to moderate depression group were also significantly higher than the major depression group ($\text{sig}=0.000$). This indicates that the level of positive psychological qualities of the subjects in the group with high depression was higher than that of the group with low depression.

For anxiety, the study subjects were sequentially divided into normal group (less than 7 points), mild to moderate anxiety group (8-14 points), and severe anxiety group (more than 15 points) based on the self-rating scale scores, and the positive psychological quality scores were compared among the three groups. The results showed that there was a significant difference in the positive psychological quality scores among the three groups of anxious college students ($F=16.042$), and the post hoc analysis showed that there was no significant difference in the positive psychological quality scores between the normal anxiety group and the mild to moderate anxiety group ($\text{sig}=0.558$), and the scores of the severe anxiety group were significantly lower than those of the normal group ($\text{sig}=0.000$) and the mild to moderate anxiety group ($\text{sig}=0.000$), indicating that the level of positive psychological qualities of the college students with severe anxiety was lower than the other two groups of subjects.

For the stress level, the subjects were divided into normal group (below 14), mild to moderate stress group (15-25), and severe stress group (above 26) according to the self-assessment scale scores, and the positive psychological quality scores were compared among the three groups. The results showed that there was a significant difference in the positive psychological quality scores between the three groups ($F=18.206$), and the post hoc analysis showed that the normal stress group had significantly higher positive psychological quality scores than the mild to moderate stress group ($\text{sig}=0.000$), but the scores of the severe stress group were not significantly different from the mild to moderate stress group and the normal stress group ($\text{sig}=0.525$, $\text{sig}=0.125$), indicating that college students in the mild to moderate stress group had the lowest positive psychological quality scores and were significantly lower than those in the normal group.

Table 6 Results of comparison between groups (ANOVA)

Positive psychological quality		Means	Standard deviation	F	Significance
Depression	Normal group	2.96	0.47	21.734	0.000
	mild to moderate group	2.71	0.51		
	Severe group	2.27	0.66		
Anxiety	Normal group	2.92	0.45	16.042	0.000
	Mild to moderate group	2.85	0.52		
	Severe group	2.44	0.60		
Stress	Normal group	2.86	0.52	18.206	0.000
	Mild to moderate group	2.39	0.58		
	Severe group	2.52	0.71		

4. Conclusion

The results of the study are in line with our hypothesis that students with higher positive psychological qualities perceive lower negative effects of the epidemic and lower levels of depression, anxiety and stress, as well as adopt more types of stress should approach. Analyzing the level of fear of the epidemic among college students, the change from fear to return to rationality to active participation in the context of the normalization of the epidemic is a common change in the mindset of college students during the epidemic. In terms of the degree of impact of the epidemic on individual college students, the sudden epidemic has brought a relatively large negative impact on college students' learning efficiency and interpersonal relationships. In terms of the ways in which college students should be epidemic, there should be a variety of ways.

4.1. Suggestions for students themselves

There are also ways to relieve irritability during the epidemic by learning a new skill, exercising, and diverting attention. Li-Liang's study showed that physical exercise helps to improve mental health [10]. The study by Liu Lanying et al. showed that distraction can help reduce negative emotions such as anxiety and depression [11]. Positive mental cues of self-encouragement can help to reduce one's level of tension and anxiety. Talk to friends or family members to confide in each other. Disbelieve, do not spread rumors and do not create rumors about the epidemic information. Join the community or school epidemic prevention volunteers to serve the students, teachers and residents of the school or community. Broaden your horizons by reading during the epidemic home. Lu He believes that it is crucial for college students to develop good reading habits [12]. Participate in more group activities to integrate into

the group and actively interact with others while at school.

4.2. Recommendations for the school level.

Colleges and universities should establish "three lines of defense" to prevent psychological problems of college students. Liu Yuan's research points out that colleges and universities should establish a three-level psychological health education system based on college counseling center, counselors of each faculty and classes [14]. At the school level, the counseling center can open a psychological counseling hotline, hold lectures, carry out colorful club activities, open a public platform of WeChat, etc., facilitate students to seek help, strengthen communication with students, and actively respond to the psychological problems encountered by students.

At the faculty level, counselors and class teachers of each faculty should pay attention to observing students, and can also establish a psychological file for students, so that "one person one book". At the class level, class leaders and group secretaries are responsible for paying attention to the psychological status of students in their classes, communicating with them in a timely manner or reporting to counselors immediately when abnormalities are detected, and organizing colorful activities. In the context of normalized prevention and control of epidemic, universities can carry out various forms of health promotion and education, popularize the knowledge of prevention and control of new coronavirus, improve the awareness of prevention, and do a good job of mental health and psychological counseling.

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