

Research on the Mental Stress of College Students in Southwest China amid the COVID-19 Epidemic

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Abstract:

This study designed related mental health assessment questions to investigate the mental stress of college students in China's southwest region during the epidemic. In this study, college students from 5 universities in southwest China were selected as the research objects. A total of 1890 questionnaires were distributed, and 1812 questionnaires were recovered, with the recovery rate of 95.87%, of which 1808 are valid. The valid rate of the questionnaire is 99.78%. The data on questionnaires were imported into Excel for preliminary screening and processing, and the data were analyzed using the SPSS22.0 software. The enumeration data are expressed by percentage (%), and X² test was performed for comparison. t test was used to compare the enumeration data, with P<0.05 representing there is difference. The research results showed that college students in Southwest China generally have different degrees of mental problems, and there are many influencing factors, including the following aspects: (1) It was found that compared with non-medical students, medical students have a lower degree of anxiety; (2) sleep quality. Generally speaking, mental state is closely related to the quality of sleep; (3) The degree of understanding of COVID-19. Students who have a moderate understanding of the epidemic situation are generally more anxious, suggesting that mistakes or limited cognition of COVID-19 can result in negative emotions of students; (4) This study revealed that with the reduction in the frequency of going out per week, the degree of anxiety of college students increases significantly.

Keywords: *Mental stress, College students, COVID-19 pandemic period, Health.*

I. RESEARCH BACKGROUND

Since the outbreak of COVID-19, people around the world have been paying attention to the grim epidemic [1]. On January 26, 2020, the National Health Commission issued the "Guiding

Principles of Emergency Psychological Crisis Intervention Under the COVID-19 Epidemic”, in which it is clearly stated that “psychological crisis intervention should be included in the overall epidemic prevention and control, so that the psychological harm caused by the epidemic can be mitigated, and the mental health status of people affected by the epidemic can be learned” [2].

College students are in a critical period of mental growth and development. At present, as domestic epidemic has been put under control, students of universities in the southwest China have returned to schools. However, college students had experienced a special period, when they spent a long time studying and living at home due to the epidemic [3]. The sudden reduction in social activities and the sedentary online classes made it difficult for students to successfully complete the learning tasks and life planning. Facing various stresses, college students have developed negative emotions such as anxiety and irritability due to the lack of security [4-5].

Universities should pay more attention to the mental health of college students in addition to students’ academic performance and epidemic, understand the needs of college students during the epidemic, find mental problems in time, and take effective intervention measures as soon as possible, so as to create favorable conditions for college students to return to normal life, and promote the realization of individual planning [6-7]. Therefore, combining the latest scale developed based on the epidemic and the Kessler 6 Scale with the cognition of college students on the epidemic, this study designed related mental health assessment questions to investigate the mental stress of college students in China’s southwest region during the epidemic. It is expected to provide reference for universities to offer mental health education for students during the epidemic.

II. RESEARCH METHODS

2.1 Research Objects

In this study, college students from 5 universities in southwest China were selected as the research objects. A total of 1890 questionnaires were distributed on the “Wenjuanxing” platform, and 1812 questionnaires were recovered, with the recovery rate of 95.87%, of which 1808 are valid. The valid rate of the questionnaire is 99.78%.

2.2 Research Process

2.2.1 Questionnaire survey

In this study, the “Mental Health Survey” and “Mental Health Evaluation Criteria” scales were selected as the research tools. The survey was conducted from March 2021 to June 2021 in

the form of online questionnaire, and statistics were made on relevant data.

2.2.2 Statistical methods

In this study, the data on questionnaires were imported into Excel for preliminary screening and processing, and the data were analyzed using the SPSS22.0 software. The enumeration data are expressed by percentage (%), and X² test was performed for comparison. t test was used to compare the enumeration data, with $P < 0.05$ representing there is difference.

2.2.3 Investigation tools

Criteria for mental health assessment.

The mental health was scored using the Likert five-point scale, where 5 points represent extreme non-conformity, 4 points represent non-conformity, 3 points mean moderate conformity, 2 points denote relative conformity, and 1 point for extreme conformity. The range of total points is 10-50, with 40-50 points representing health; 30-39 points denoting mild mental problems; 20-29 points for moderate mental problems; 10-20 points for serious mental problems [8].

2.3 Mental Health Survey

Based upon the Kessler 6 Scale, the mental health assessment questions were revised and designed, involving 10 dimensions, namely “poor self-control, difficulty in decision-making, inattention”, “cynicism, dramatic mood swing”, “communication barriers”, “loneliness”, “worrying about the future”, “worrying about the epidemic”, “worrying about family members”, “decadent”, “irritable”, and “unable to lead a normal life”. The Cronbach alpha value of the questionnaire is 0.73, indicating that the questionnaire has high reliability; the KMO statistic is 0.88, which is greater than 0.5, indicating that this questionnaire has good construct validity [9].

III. RESULTS

3.1. The Basic Situation of the Research Objects

In the questionnaire survey, 840 respondents are females, accounting for 46.36%, 972 respondents are males, accounting for 53.64%, of which 174 are seniors, occupying 9.60%, 295 are juniors, occupying 16.28%, 523 are sophomores, making up 28.86%, and 820 are freshmen, accounting for 45.25%, as shown in Figure 1 and Figure 2.

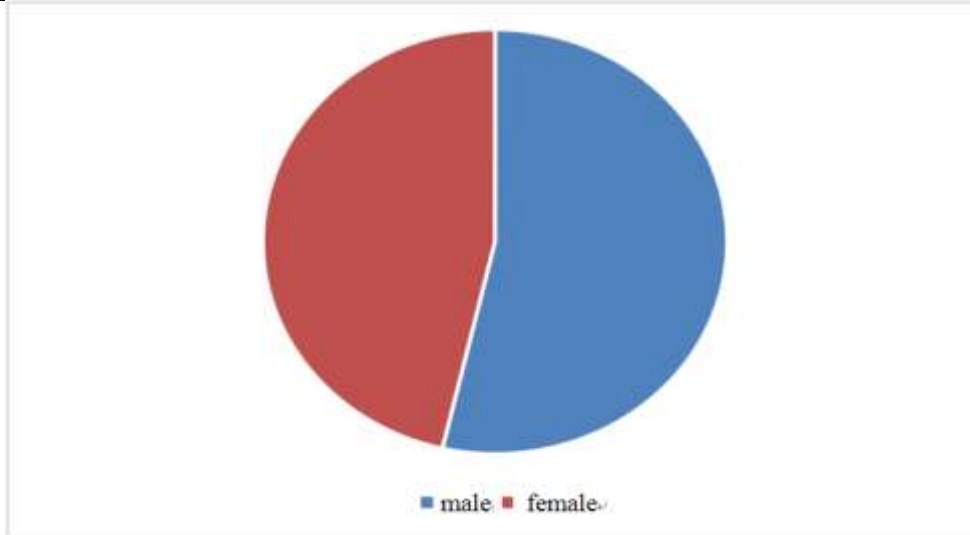


Fig 1: Gender distribution

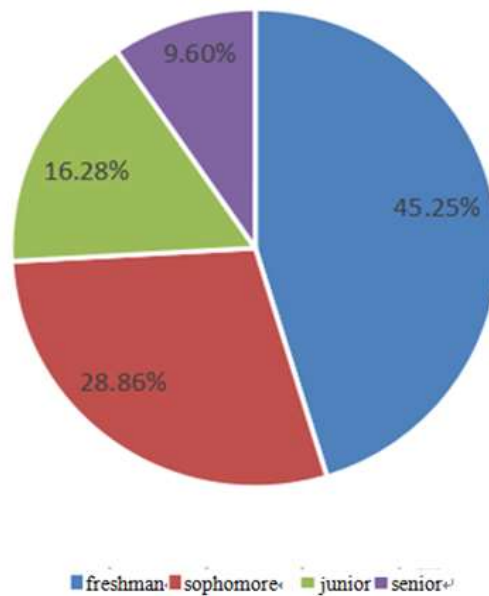


Fig 2: Age distribution

3.2 Mental Health Status of College Students in Southwest China during the Period of the COVID-19 Epidemic

It was found that during the period of the COVID-19 epidemic, most college students had mild to moderate mental problems, as shown in TABLE I.

TABLE I. Score distribution of the mental health of college students (n=1812)

LEVEL	SCORE	NUMBER (N)	PERCENTAGE (%)
Health	40-50	300	16.56
Mild	30-39	699	38.58
Moderate	20-29	600	33.11
Severe	10-19	213	11.75

3.3 Multi-Factor Analysis of the Mental Status of College Students in Southwest China

In this study, sleep quality, frequency of going out per week, the degree of understanding of COVID-19, and major were selected as independent variables. After values were assigned, Logistic multi-factor analysis was performed. The results showed that the occurrence of adverse mental problems are related to sleep quality, the frequency of going out per week, the degree of understanding of COVID-19, and the major of college students in the southwestern region, as shown in TABLE II and TABLE III.

TABLE II. Values of categorical variables

INDEPENDENT VARIABLES	METHOD OF ASSIGNING VALUES
Sleep quality	Poor=1; good=0
The frequency of going out per week	> 3 times=2; 1-3 times=1; none=0
The degree of understanding of COVID-19	Moderately understand=1; understand well=0
Major	Non-medical majors=1; Medical majors=0

TABLE III. Multi-factor analysis of the influencing factors for the mental problems of college students in southwest China

INDEPENDENT VARIABLES	B	WALD	P	OR
Sleep quality	0.422	17.536	<0.001	1.525
The frequency of going out per week				
1-3 times	-0.327	7.285	0.006	0.722

> 3 times	-0.365	6.928	0.009	0.698
The degree of understanding of COVID-19	0.477	13.586	<0.001	1.615
Major	0.344	12.634	<0.001	1.409

IV. DISCUSSION

College students are in a vital stage of mental growth and development. Suffering anxiety and panic caused by the epidemic, coupled with long-term staying at home, they are prone to mental stress reactions such as worry and loneliness. If the “mental power” is significantly reduced, and cannot be supplemented in a timely manner, students are easily subject to different degrees of negative emotions, which will increase the psychological burden [10-11]. The research results showed that college students in Southwest China generally have different degrees of mental problems, and there are many influencing factors, including the following aspects: (1) major. It was found that compared with non-medical students, medical students have a lower degree of anxiety. The reason may be that the medical students pay more attention to the epidemic. They have a rational view of the domestic epidemic prevention and control, and they know how to respond to the epidemic, thus, they will adjust emotions, and maintain a positive and healthy attitude [12-13]; (2) sleep quality. Generally speaking, mental state is closely related to the quality of sleep [14]. At present, stresses from multiple aspects such as employment and academic performance will aggravate the sleep disorders of college students, especially during the period of epidemic, when students stayed at home. Although most students had a longer sleep, they slept late, leading to negative emotions, which affected night sleep, and the two factors interact to form a vicious circle [15-16]; (3) the degree of understanding of COVID-19. Compared with students who have a full understanding of the epidemic, students who have a moderate understanding of the epidemic situation are generally more anxious, suggesting that mistakes or limited cognition of COVID-19 can result in negative emotions of students. Therefore, health education should be strengthened to enhance students’ awareness of diseases [17]; (4) Frequency of going out per week. This study revealed that with the reduction in the frequency of going out per week, the degree of anxiety of college students increases significantly. The result is consistent with the research reports of Lu Boyi [18] and Xu Fei [19]. The reason is that students could not go out at will during the period of epidemic, forcing them to change daily habits. As they stayed at home for a long time, students gradually developed resistance, thereby aggravating mental problems [20].

V. CONCLUSION

In summary, during the period of COVID-19 epidemic, college students in southwestern China generally had different levels of mental problems, which are related to many influencing

factors. Parents or teachers should provide students with appropriate support and intervention, pay attention to their emotional needs, strengthen communication, guide them to vent their negative emotions through appropriate ways, and correct their bad lifestyles and habits, so as to help students to develop a healthy lifestyle, and maintain a positive attitude.

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