The Influence of COVID-19 Epidemic on College Students' Psychological State at Home and Guiding Strategies

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Abstract: Objectives: To accurately and comprehensively grasp the psychological response and stress reaction of the COVID-19 epidemic to college students at home and to enhance their confidence and hope in overcoming the COVID-19 epidemic. Methods: This paper uses empirical research method and literature research method to carry out an investigation from seven perspectives, namely the epidemic prevention cognitive behaviors, panic degree of the epidemic, evaluation of community measures, confidence in overcoming the epidemic, physical and mental status at home, evaluation of measures taken by colleges and universities, education and publicity in colleges and universities, so as to objectively grasp the cognition and psychological response of college students to the COVID-19 epidemic. Results: It is found that the public's basic knowledge, cognition, and response measures of the COVID-19 epidemic need to be further improved. Conclusions: During the COVID-19 epidemic, college students can highly recognize the party and the country's epidemic prevention measures, maintaining a good state of mental health at home.

Keywords: COVID-19 epidemic; college students; psychological state at home; guiding strategy

Since the outbreak of the COVID-19 epidemic, China has attached great importance to epidemic prevention and control, putting forward the strategy "to strengthen confidence and solidarity and take science-based and targeted measures". Under the firm leadership of the CPC Central Committee, China has achieved great victories in fighting against COVID-19 epidemic through China's socialist system advantage, strong mobilization capability and strong comprehensive national strength. The party and army and the people of all nationalities in China have fought together and formed China's experience, China's plan and China's wisdom during the epidemic.

The COVID-19 epidemic has swept the world and has a huge impact on politics, economy, culture, and education all over the world. During the epidemic, the study and life of college students have been greatly affected. Therefore, an in-depth analysis of the psychological state and guiding strategies of college students during the COVID-19 epidemic has important practical significance.

1. Research Background

People's traditional thinking believes that the perception of risk comes from rationality, but Kahnemen, a cognitive psychologist who won the Nobel Prize in Economics in 2002, found that the Expected Utility Theory cannot explain the systematic bias in people's cognitive choices[1]. The sudden epidemic has caused great panic among the public. Measures such as suspension of work, suspension of school, and restrictions on the movement of people have a certain degree of negative effect on people's psychology and behavior.

At the beginning of 2020, most colleges and universities adopted the policy "classes suspended but learning continues", arranging for students to receive online lectures at home. Therefore, this research is to analyze the psychological response and stress reaction of the COVID-19 epidemic to college students at home.

2. Research Methodology

This study was conducted through an online questionnaire survey, with the purpose of analyzing the psychological response and stress reaction of college students at home during the COVID-19 epidemic. Meanwhile, this study also aims to analyze the influence factors of COVID-19 epidemic on college students' mentality, and then further explore how to give psychological counseling and necessary guidance to their panic and anxiety during the COVID-19 epidemic, so as to ensure college students' physical and mental health.

In this research, the questionnaire was designed and distributed through the online platform and a total of 165056 college students completed the questionnaire. This questionnaire consists of two parts. The first part is the information of the respondents, including gender, residence, grade, political appearance and physical status. The second part is composed of a total of 92 items in 7 dimensions, including epidemic prevention cognitive behaviors (18 items), panic degree of the epidemic (12 items), evaluation of community measures (12 items), confidence in overcoming the epidemic (12 items), physical and mental status at home (20 items), evaluation

of measures taken by colleges and universities (8 items), education and publicity in colleges and universities (10 projects).

3. Research Results and Discussions

The survey was scored with 5-level Likert scale. Cronbach's alpha coefficient of reliability test is 0.93, KMO value of content validity test is 0.968. All the data were analyzed by the statistic tool of SPSS 22. The data of the multiple logistic regression analysis of individual mentality of college students are shown in Table 1.

Table 1. Multiple Logistic Regression Analysis of Individual Mentality of College Students

Model	Factor	B	S.E.	t	R^2	F
Epidemic prevention cognitive behaviors	Variables	1.479	0.011	137.789**	0.584	11785.762**
	Panic degree of the epidemic	0.158	0.002	84.863**		
	Evaluation of community measures	0.204	0.002	117.222**		
	Confidence in overcoming the epidemic	0.146	0.002	62.803**		
	Physical and mental status at home	0.038	0.002	23.140**		
	Evaluation of measures taken by colleges and universities	0.044	0.002	22.772**		
	Education and publicity in colleges and universities	0.051	0.002	29.486**		
Panic degree of the epidemic	Variables	1.475	0.014	103.543**	0.383	4720.077**
	Epidemic prevention cognitive behaviors	0.265	0.003	84.863**		
	Evaluation of community measures	0.008	0.002	3.608**		
	Confidence in overcoming the epidemic	0.119	0.003	39.344**		
	Physical and mental status at home	0.208	0.002	99.735**		
	Evaluation of measures taken by colleges and universities	0.057	0.002	22.908**		
	Education and publicity in colleges and universities	-0.026	0.002	-11.585**		
Evaluation of community measures	Variables	-0.051	0.015	-3.323**	0.613	5755.268**
	Epidemic prevention cognitive behaviors	0.376	0.003	117.222**		
	Panic degree of the epidemic	0.009	0.003	3.608**		
	Confidence in overcoming the epidemic	0.316	0.003	102.415**		
	Physical and mental status at home	-0.022	0.002	-9.718**		
	Evaluation of measures taken by colleges and universities	0.079	0.003	30.365**		
	Education and publicity in colleges and universities	0.208	0.002	90.347**		
Confidence in overcoming the epidemic	Variables	1.792	0.011	162.293**	0.594	15021.414**
	Epidemic prevention cognitive behaviors	0.160	0.003	62.803**		
	Panic degree of the epidemic	0.078	0.002	39.344**		
	Evaluation of community measures	0.189	0.002	102.415**		
	Physical and mental status at home	-0.082	0.00	-47.469**		

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	Evaluation of measures taken by colleges and universities	0.151	0.002	76.046**		
	Education and publicity in colleges and universities	0.099	0.002	54.481**		
Physical and mental status at home	Variables	2.448	0.016	155.404**	0.293	2590.601**
	Epidemic prevention cognitive behaviors	0.085	0.004	23.140**		
	Panic degree of the epidemic	0.274	0.003	99.735**		
	Evaluation of community measures	-0.026	0.003	-9.718**		
	Confidence in overcoming the epidemic	-0.165	0.003	-47.469**		
	Evaluation of measures taken by colleges and universities	-0.032	0.003	-11.336**		
	Education and publicity in colleges and universities	-0.052	0.003	-20.211**		
Evaluation of measures taken by colleges and universities	Variables	0.768	0.014	53.356**	0.635	18578.811**
	Epidemic prevention cognitive behaviors	0.072	0.003	22.772**		
	Panic degree of the epidemic	0.056	0.002	22.908**		
	Evaluation of community measures	0.070	0.002	30.365**		
	Confidence in overcoming the epidemic	0.225	0.003	76.046**		
	Physical and mental status at home	-0.024	0.002	-11.336**		
	Education and publicity in colleges and universities	0.401	0.002	200.888**		
Education and publicity in colleges and universities	Variables	0.164	0.016	10.231**	0.658	20956.936**
	Epidemic prevention cognitive behaviors	0.102	0.003	29.486**		
	Panic degree of the epidemic	-0.031	0.003	-11.585**		
	Evaluation of community measures	0.226	0.003	90.347**		
	Confidence in overcoming the epidemic	0.179	0.003	54.481**		
	Physical and mental status at home	-0.047	0.002	-20.211**		
	Evaluation of measures taken by colleges and universities	0.489	0.002	200.888**		

3.1 Epidemic Prevention Cognitive Behaviors

R^2=0.584 ($p<0.01$) shows that panic degree of the epidemic, evaluation of community measures, confidence in overcoming the epidemic, physical and mental status at home, evaluation of measures taken by colleges and universities and education and publicity in colleges and universities have positive predictive effect on epidemic prevention cognitive behavior (positive effect). Compared with the standardized regression coefficient β, the evaluation of community measures ($\beta=0.204$, $p<0.01$) have the greatest positive effect on epidemic prevention cognitive behaviors, followed by panic degree of the epidemic ($\beta=0.158$, $p<0.01$), confidence in overcoming the epidemic ($\beta=0.146$, $p<0.01$), education and publicity in colleges and universities ($\beta=0.051$, $p<0.01$), evaluation of measures taken by colleges and universities ($\beta=0.044$, $p<0.01$), physical and mental status at home ($\beta=0.038$, $p<0.01$).

Form the above data analysis, some conclusions can be reached. The high degree of completeness and evaluation of the epidemic prevention and control measures in the community where the college students live can increase their understanding of epidemic prevention and control and encourage them to take more epidemic prevention actions. The panic degree of the

epidemic can also affect college students to obtain more knowledge and information on epidemic prevention and control, and at the same time facilitate them to take more self-protection measures for epidemic prevention. Moreover, the degree of confidence in overcoming the epidemic also positively affects college students' cognitive behaviors for epidemic prevention.

3.2 Panic Degree of the Epidemic

R^2=0.383 ($p<0.01$) indicates that epidemic prevention cognitive behaviors, evaluation of community measures, confidence in overcoming the epidemic, physical and mental status at home, evaluation of measures taken by colleges and universities, have a positive predictive effect on the panic degree of the epidemic (positive effect), while education and publicity in colleges and universities have a negative predictive effect on the panic degree of the epidemic (negative effect).

Compared with the standardized regression coefficient β, the epidemic prevention cognitive behaviors (β=0.265, $p<0.01$) have the greatest positive impact on the panic degree of the epidemic, followed by physical and mental status at home (β=0.208, $p<0.01$), confidence in overcoming the epidemic (β=0.119, $p<0.01$), evaluation of measures taken by colleges and universities (β=0.057, $p<0.01$), and evaluation of community measures (β=0.008, $p<0.01$).

The epidemic prevention cognitive behaviors (β=0.265, $p<0.01$) manifest that the college students who take excessive epidemic prevention cognitive behaviors may have excessive protection cognition and compulsive behaviors. For example, excessive intake of news about the epidemic and over protection can increase the panic degree of the epidemic.

Furthermore, physical and mental status at home (β=0.208，$p<0.01$) state that during the period of home epidemic prevention, college students with poor physical and mental status have a high degree of panic about the epidemic. Therefore, to help them adjust their physical and mental state scientifically is conductive to reducing their panic degree of the epidemic. The education and publicity in colleges and universities (β=-0.026, $p<0.01$) (the negative influencing factor) shows that strengthening the education and publicity in the prevention and control during the epidemic for college students can effectively reduce their panic degree of the epidemic.

3.3 Evaluation of Community Measures

R^2=0.613 ($p<0.01$) suggests that epidemic prevention cognitive behaviors, panic degree of the epidemic, evaluation of measures taken by colleges and universities and education and publicity in colleges and universities have a positive predictive effect on the evaluation of community measures (positive effect), while the physical and mental status at home have a negative predictive effect on the evaluation of community measures (negative effect).

Compared with the standardized regression coefficient β, the epidemic prevention cognitive behaviors (β=0.376, $p<0.01$) have the greatest positive impact on the evaluation of community measures, followed by confidence in overcoming the epidemic (β=0.316, $p<0.01$), education and publicity in colleges and universities (β=0.208, $p<0.01$), evaluation of measures taken by colleges and universities (β=0.079, $p<0.01$), and the panic degree of the epidemic (β=0.009, $p<0.01$).

The epidemic prevention cognitive behaviors (β=0.376, $p<0.01$) reflect that the increasing of college students' awareness and behaviors of epidemic prevention can affect the evaluation of measures in the communities where they live. Additionally, confidence in overcoming the epidemic (β=0.316, $p<0.01$) shows that college students with high confidence are highly satisfied with the epidemic prevention measures taken in their communities. The physical and mental state at home (β=-0.022, $p<0.01$) (the negative influencing factor) indicates that strengthening prevention and control measures in the community can effectively optimize the physical and mental state of college students at home.

3.4 Confidence in Overcoming the Epidemic

R^2=0.594 ($p<0.01$) suggests that epidemic prevention cognitive behaviors, panic degree of the epidemic, evaluation of community measures, and education and publicity in colleges and universities have a positive predictive effect on confidence in overcoming the epidemic (positive effect), while physical and mental state at home has a negative predictive effect on confidence in overcoming the epidemic (negative effect).

Compared with the standardized regression coefficient β, the evaluation of community measures (β=0.189, $p<0.01$) has the greatest positive effect on the confidence to overcome the epidemic, followed by epidemic prevention cognitive behaviors (β=0.160, $p<0.01$), evaluation of measures taken by colleges and universities (β=0.151, $p<0.01$), education and publicity in colleges and universities (β=0.099, $p<0.01$) and panic degree of the epidemic (β=0.078, $p<0.01$).

The evaluation of community measures (β=0.189, $p<0.01$) manifests that improving the satisfaction of epidemic prevention and control measures in community can increase the confidence of college students in overcoming the epidemic. Furthermore, epidemic prevention cognitive behaviors (β=0.160, $p<0.01$) show that scientifically understanding the epidemic and adopting effective and appropriate epidemic prevention behaviors can enhance college students' confidence in defeating the epidemic. The physical and mental status at home (β=-0.082, $p<0.01$) (the negative influencing factor) state that good physical and mental state of college students at home can help them to improve their confidence to overcome the epidemic.

3.5 Physical and Mental State at Home

R^2=0.293 ($p<0.01$) reflects that epidemic prevention cognitive behaviors (β=0.085, $p<0.01$) and panic degree of the epidemic (β=0.274, $p<0.01$) have a positive predictive effect on the physical and mental status at home (positive effect), which also means that the

excessive intake of information and news about the epidemic and the excessive self-protection behavior have a negative impact on college students' physical and mental state. The higher the degree of panic among college students, the worse their physical and mental health at home.

Additionally, evaluation of community measures (β=-0.026, p<0.01), confidence in overcoming the epidemic situation (β=-0.165, p<0.01), education and publicity in colleges and universities (β=-0.032, p<0.01) and education and publicity in colleges and universities (β=-0.052, p<0.01) have negative predictive effect on the physical and mental status at home (negative effect),

which also implies that it is possible to improve physical and mental state of college students at home by strengthening the epidemic prevention measures in communities and universities, increasing college students' confidence in overcoming the epidemic, and enhancing education and publicity in colleges and universities.

3.6 Evaluation of Measures Taken by Colleges and Universities

R^2=0.635 (p<0.01) means that epidemic prevention cognitive behaviors, panic degree of the epidemic, confidence in overcoming the epidemic, the evaluation of community measures and education and publicity in colleges and universities have a positive predictive effect on evaluation of measures taken by colleges and universities (positive effect), while the physical and mental state at home has a negative predictive effect on evaluation of measures taken by colleges and universities (negative effect).

Compared with the standardized regression coefficient β, it can be seen that education and publicity in colleges and universities (β=0.401, p<0.01) has the greatest positive impact on evaluation of measures taken by colleges and universities, followed by confidence in overcoming the epidemic (β=0.225, p<0.01), epidemic prevention cognitive behaviors (β=0.072, p<0.01), evaluation of community measures (β=0.070, p<0.01), panic degree of the epidemic (β=0.056, p<0.01).

The education and publicity in colleges and universities (β=0.401, p<0.01) states that the publicity and education, humanistic care and academic guidance of epidemic prevention and control for college students can improve the evaluation of their satisfaction with epidemic prevention measures. Moreover, confidence in overcoming the epidemic (β=0.225, p<0.01) implies that college students with high confidence are highly satisfied with the epidemic prevention measures taken in their campus. Epidemic prevention cognitive behaviors (β=0.072, p<0.01) reflect that college students who scientifically understand the epidemic and adopt effective and appropriate epidemic prevention behaviors are highly satisfied with the epidemic prevention measures taken by colleges and universities. The physical and mental status at home (β=-0.024, p<0.01) (the negative influencing factor) manifests that college students with good physical and mental status at home are also highly satisfied with the epidemic prevention measures taken by colleges and universities.

3.7 Education and publicity in colleges and universities

R^2=0.658 (p<0.01) shows that evaluation of measures taken by colleges and universities (β=0.489, p<0.01), evaluation of community measures (β=0.226, p<0.01), confidence in overcoming the epidemic (β=0.179, p<0.01) and epidemic prevention cognitive behaviors (β=0.102, p<0.01) have positive predictive effect on the education and publicity in colleges and universities (positive effect). Additionally, the panic degree of the epidemic (β=-0.031, p<0.01), physical and mental state at home (β=-0.047, p<0.01) has a negative predictive effect on the education and publicity in colleges and universities (negative effect), which implies that the degree of satisfaction of college students with panic or poor physical and mental state will be reduced.

4. Conclusions

After analyzing the data of college students' psychological state at home during the epidemic, it is found that the public's basic knowledge, cognition, and response measures of the COVID-19 epidemic need to be further improved. [2]With the development of the epidemic, it is necessary to carry out targeted, timely and scientific all-round guidance to college students through various ways, so that they can adjust their psychological state at home, ensuring their physical and mental health. The guiding strategies are listed as follows.

Firstly, The panic degree of the epidemic leads to the excessive cognition and behavior of epidemic prevention. College students with poor physical and mental status at home will take excessive cognitive behavior of epidemic prevention, such as excessive intake of information and news about the epidemic, and excessive self-protection behavior. Therefore, it is necessary to guide college students to take appropriate cognitive behavior of epidemic prevention.

Secondly, the poor physical and mental health of college students at home will affect their panic degree of the epidemic. Therefore, by strengthening online psychological counseling and popular science education to prevent mental changes caused by the "psychological typhoon eye" effect, it can guide the college students to pay attention to the news of the epidemic by the government departments in time and reduce their panic at home.

Thirdly, it is necessary to improve the epidemic prevention and control measures in community. [3]Through regular supply of masks and epidemic prevention materials, community patriotic health campaign, strengthening the detection of entry and exit personnel and tracking management of external personnel and other measures, the public's satisfaction of epidemic prevention and control measures in community can be improved, which can also promote the physical and mental state of college students at home.

Fourthly, good physical and mental state of college students at home can enhance their confidence in

overcoming the epidemic. It is important to guide college students to understand the epidemic scientifically and rationally, so as not to spread rumors, believe rumors or make rumors. In addition, it is also possible to enhance the confidence of college students in overcoming the epidemic through effective epidemic prevention behaviors, enhancement of epidemic prevention measures in communities and colleges, or promotion of education and publicity in colleges and universities.

Fifthly, college students' excessive intake of information and news about the epidemic, and excessive self-protection behaviors, will adversely affect their physical and mental state. Meanwhile, their panic degree of the epidemic will also affect their physical and mental state at home. It is possible to improve and optimize the psychological state of college students at home by improving epidemic prevention measures in communities and universities, increasing college students' confidence in fighting the epidemic, and strengthening education and publicity in colleges and universities.

Sixthly, [4]colleges and universities should strengthen publicity and education, humanistic care, and academic guidance for college students to prevent and control the epidemic, especially employment guidance for graduates. Colleges and universities should strengthen the publicity and education, humanistic care, and academic guidance for college students to prevent and control the epidemic, especially the employment guidance for graduates. It is necessary to carry out online interviews, online employment skills training, and online employment information supply in time to alleviate the employment pressure and irritability of graduates.

Seventhly, it is necessary to strengthen the publicity of the knowledge and methods of prevention of the COVID-19 epidemic, improving the scientific literacy of the public[5]. Colleges and universities should strengthen publicity and education for college students through new media platforms and encourage college students to create cultural works on anti-epidemic themes during the epidemic. Meanwhile, through the deeds of anti-epidemic heroes, the confidence and determination of the party and the country in overcoming the epidemic can be promoted to college students, which is also conductive to adjusting the panic degree of the epidemic and the physical and mental health of college students.

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