

# How COVID-19 Has Changed Chinese Young Adults' Mental Health Status

Xinhan Zhou\*

Shenzhen International Foundation College, Shenzhen, Guangdong 518000, China

\*Corresponding Author. Email: vincentxh06@gmail.com

## ABSTRACT

Recently, a new coronavirus, officially called SARS-CoV2 (COVID-19), had brought the entire world into disorders. COVID-19 had caused overall 450 million infections in the entire world, whereas it caused more than 150 thousand in China. It has been doubted whether the COVID-19 can affect people's mood or not, especially in China. Thus, in this work, the focus point is on how COVID-19 (a new outbreak pandemic) changed Chinese young adults' (from the age of 18-25) emotional status (stress level, depress level, and anxiety level). The method used in this research is quantitative, which is surveys. The survey was distributed to 56 participants, but 49 of them were valid participants. After analyzing the paper, the result shows some relationships between COVID-19 and the emotional status of Chinese young adults. However, the results are not statistically significant because the sample sizes are small. This research helps others acknowledge how the COVID-19 has changed the emotional status of the young population and helps government/medical institutions obtain more detailed information about young adults' emotional status during this pandemic to treat those young adults better.

**Keywords:** Emotional status, stress level, anxiety level, depress level, COVID-19

## 1. INTRODUCTION

Recently, there has been an outbreak of the disease worldwide. According to the WHO, the new disease called COVID-19 has been considered a Pandemic. [1] This pandemic affected everyone's life and caused many death cases worldwide. The economic system, the education system, and the government system were seriously affected. Also, the Chinese are involved in this pandemic too. In a social structure, young adults will be the most constructive part. While Chinese young adults' lives are affected, their emotional status might change. Then, if their mental health turns good or bad, the country's development will also be affected. Therefore, studying Chinese young adults' mental health status in the span of COVID-19 is essential.

According to WHO, mental health is the foundation for individuals' well-being and effective functioning [2]. The study's primary focus will be on the three different parts of mental health, including depression, anxiety, and stress. As a mental disorder, depression can cause long-term sadness and lack of interest in life; it will also affect how people think and behave [3]. Identically, anxiety is a mental disorder too. Generalized Anxiety Disorder can

cause humans to have inevitable worries about something and likely push into an adverse outcome [4]. However, stress is not a mental disorder. It is a normal human reaction to everyone, and everyone has replied [5].

The fundamental hypothesis of the research is that Chinese young adults' mental health status was significantly different in 2019, 2020, and 2021 due to the pandemic emergence. This study shows how Chinese young adults' mental health status has changed and improved their mental status.

There is already some research to show the relationship between COVID-19 and mental health status. Those studies included longitudinal studies [6], focusing only on undergraduate students or only investigating medical professionals [7,8]. There is no known information of the longitudinal mental health status throughout 2019-2021, which is the time before the COVID-19 outbreak and after the COVID-19 have already outbreak. Also, there is no particular known information about how the mental health of Chinese young adults (ages from 18-25) has changed. This study researches on how the Chinese Young adults' emotional status has changed before the time that COVID-19 has

outbroken and after the time that COVID-19 has fallen down the peak to fill the research gap. In order to examine the mental health status of Chinese young adults in COVID-19, a quantitative approach is adopted because it can gather many people's opinions in a short amount of time. Not only because it is time-efficient, but also it is convenient for people because the way to collect data is through the internet. The other advantage of collecting data through the internet is that the result will be more regionally diverse. Therefore, the impact will be more significant and representative to the whole population.

## 2. METHOD

### 2.1 Participants

The participants included 49 adults between 18-25 years old from Beijing, Shanghai, Guangdong, Zhejiang, Hubei, Tianjin, Sichuan in China. Participants were recruited on the internet using WeChat and other online instant messengers. The participants involved are all anonymous.

### 2.2 Material

The study used a survey to gain the outcome. The Depression, Anxiety, and Stress Scale (DASS-21) [9] were used to conduct the survey questions. DASS-21 has reliability, validity, and it is an ideal tool to test mental health status [10]. Three parts are contained in the survey, including demographic data part (it is used for obtaining ages, gender, marriage situation, education background, and occupation of participants), DASS-21(From November 2019 to the outbreak of pandemic), DASS-21(The most severe time of pandemic in 2020), and DASS-21(After the Pandemic eased in 2021 until December 2021). A complete survey was completed through an online survey platform called 'Tencent wenjuan'(Powered by Tencent Holdings Ltd.)

### 2.3 Procedure

All participants were informed that the survey result would be used for research and take them a maximum of 30 minutes.

The survey was posted online (WeChat moment and the participants were encouraged to invite others to fill out the survey), and the link was accessible to both mobile phones and computers. Then, the participants must fill all three parts before they submit the survey. Each DASS-21 survey has 21 questions, and the demographic data parts contain five questions. There are 68 questions in total. DASS-21 includes depression, anxiety, and stress scores calculation. In 21 questions, 7 for depression, 7 for anxiety, and the rest 7 are for stress level. Each question is scored on a 4-level scale, from 0(Disagree) to 4(Agree). Scores of each part multiplied by two would be the result; the higher the scores are, the more emotional the participant is. In the depression subscale, 10, 14, and 21 are the cut-off values for mild, moderate, and severe depression, respectively; in the anxiety subscale, 8, 10, and 15 are the cut-off values for mild, moderate, and severe anxiety, respectively; In the subscale, 15, 19 and 26 are cut-off values for mild, moderate and severe stress, respectively. Participants can know the survey scores only if they finish all the questions; then, they can ask experimenters for the result.

## 3. RESULT

### 3.1 Survey Result

Overall, 56 participants completed the survey. However, 7 participants' data were removed because their ages do not meet the requirement of this study. Finally, there are 49 valid participants. The participants' depression, stress, and anxiety scores are higher in 2020 than in 2019 and 2021. In specific, average depression scores are approximately 5(in 2019), 7(in 2020), and ~4-5(in 2021); average stress scores are estimated 8(in 2019), 9(in 2020), and 7(in 2021); average anxiety scores are roughly ~5-6(in 2019), ~6-7(in 2020), ~5-6(in 2021).

### 3.2 Statistical Results

As for the statistical results, the following figures shows the average depression scores, stress scores, and anxiety score across 2019 to 2021 of Chinese young adults (see Figure 1,2,3).

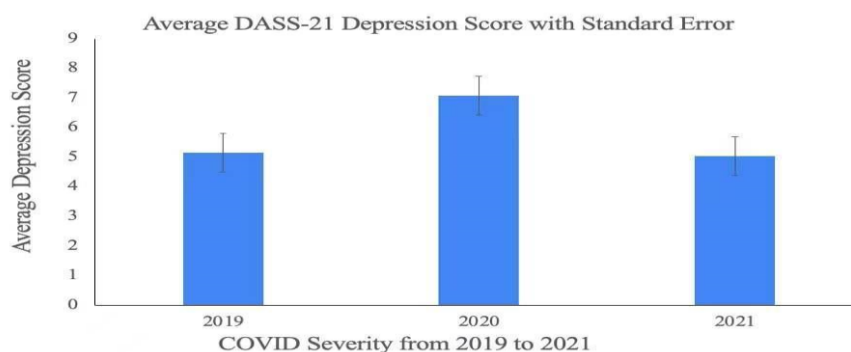


Fig. 1 The average depression scores across 2019 to 2021 of Chinese young adults.

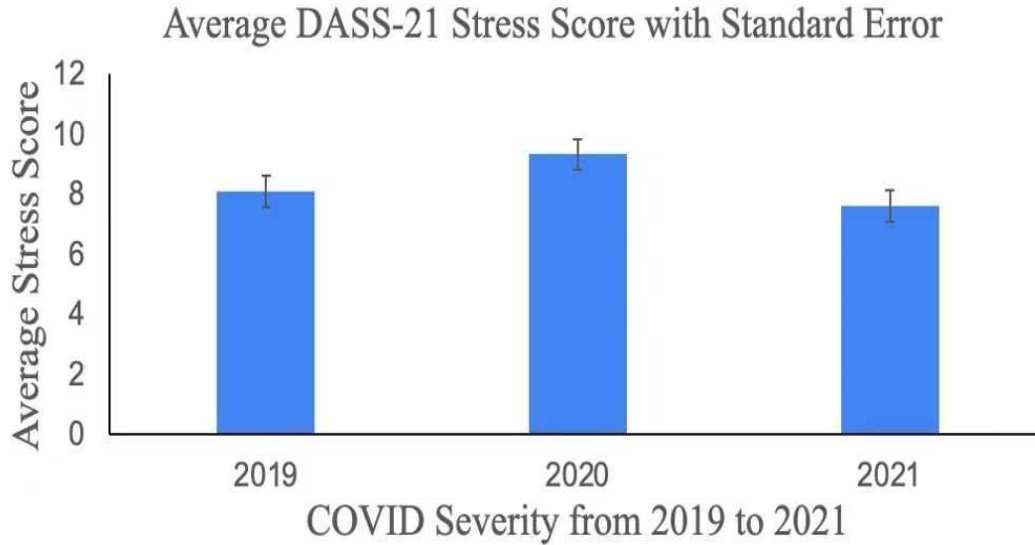


Fig. 2 The average stress scores across 2019 to 2021 of Chinese young adults.

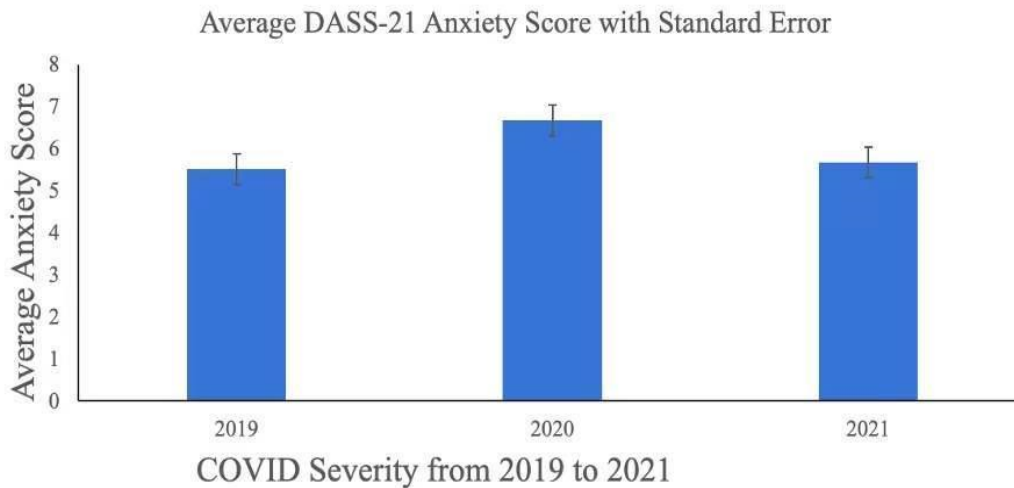


Fig. 3 The average anxiety scores across 2019 to 2021 of Chinese young adults.

#### 4. CONCLUSION

By testing the effect of COVID-19 on the Young Chinese Adults, the study established that when the severity of the COVID-19 pandemic increased, the residents' mental health was turning into a more negative status, which means they were more likely to have depression, stress, and anxiety. Although the p-value is more significant than 0.05, the result shows some correlation between COVID-19 and the mental health status.

The research helps people, including medical professionals, government officers, or average citizens, better understand how the COVID-19 had changed young adults' moods to devise some plans to help, therefore cure, those young adults. This research also provides further information about specific age groups' people longitudinal mood status during COVID-19.

#### 4.1 Future Direction

In terms of future research, it would be helpful to extend the current findings by examining the main factors that cause their mental health status to change. Furthermore, while this study examined the effect of COVID-19 on Chinese Young Adults, other studies can go deeper into the different age groups of people in China, such as children or the old.

#### 4.2 Limitations

There are at least two limitations concerning the results of this study. First, the sample size for obtaining surveys' results is small, so the results are not enough to have a statistically significant result. Second, the survey questions relied on participants' subjective opinions. Therefore, the study result can be somehow inaccurate and unreliable.

## REFERENCES

- [1] WHO. (2020) Who director-general's opening remarks at the media briefing on COVID-19 - 11 March 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
- [2] WHO. (2022) Mental health. <https://www.who.int/westernpacific/health-topics/mental-health>
- [3] Mayo Clinic Staff. (2018) Depression (major depressive disorder) <https://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-20356007>
- [4] Lott, A. P., & Stenson, A. (2019) Anxiety " what is Anxiety? Signs, causes, symptoms. <https://www.anxiety.org/what-is-anxiety>
- [5] Cleveland Clinic medical professional. (2021) Stress: Signs, symptoms, management & prevention. <https://my.clevelandclinic.org/health/articles/11874-stress>
- [6] Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R. S., Choo, F. N., Tran, B., Ho, R., Sharma, V. K., & Ho, C. (2020) A longitudinal study on the mental health of general population during the covid-19 epidemic in China. *Brain, Behavior, and Immunity*. <https://www.sciencedirect.com/science/article/pii/S0889159120305110#b0055>
- [7] Lu, P., Yang, L., Wang, C., Xia, G., Xiang, H., Chen, G., Jiang, N., Ye, T., Pang, Y., Sun, H., Yan, L., Su, Z., Heyworth, J., Huxley, R., Fisher, J., Li, S., & Guo, Y. (2021) Mental health of new undergraduate students before and after covid-19 in China. <https://www.nature.com/articles/s41598-021-98140-3>
- [8] Wang Y;Liu Y;Liu L;Wang X;Luo N;Li L; (2020) Clinical outcomes in 55 patients with severe acute respiratory syndrome coronavirus 2 who were asymptomatic at hospital admission in Shenzhen, China. <https://pubmed.ncbi.nlm.nih.gov/32179910/>
- [9] PJ, N. (2007) Depression anxiety and stress scales (DASS-21): Psychometric analysis across four racial groups. <https://pubmed.ncbi.nlm.nih.gov/17999228/>
- [10] Zanon C; Brenner RE; Baptista MN; Vogel DL; Rubin M; Al-Darmaki FR; Gonçalves M; Heath PJ; Liao HY; Mackenzie CS; Topkaya N; Wade NG; Zlati A; (2021). Examining the dimensionality, reliability, and invariance of the Depression, anxiety, and stress scale-21 (DASS-21) across eight countries. <https://pubmed.ncbi.nlm.nih.gov/31916468/>