

# The Influence of the Age and Education Level on the Level of Depression and Anxiety under the COVID-19 Pandemic

Sihan Chen

*Biology major, Northeastern University, Boston, MA, 02115, U.S.*

*\*Corresponding author. Email: chen.sihan2@northeastern.edu*

## ABSTRACT

The COVID-19 pandemic is a stressful event for the general population; therefore, it causes depression, anxiety, fear, insomnia, and other physical and psychological stress conditions to people. There are many factors that can affect the level of depression and anxiety feelings. The aim of this study is to analyze whether people of different ages and educational backgrounds have a different level of depression and anxiety, and which group is more severe and needs special help. The record data of the indicators of anxiety and depression with distinct age groups and educational backgrounds were extracted from Household Pulse Survey (COVID-19), Centers for Disease Control and Prevention. And the author created her own data and charts by using the data information collected in the Household Pulse Survey to show the variation trend of anxiety and depression levels with different ages and educational backgrounds. The author further analyzed the causes and results of this health trend. According to the research results, different classes of individuals have various responses to Covid-19. Different age ranges and levels of education cause different levels of depression and anxiety. Younger people and people with lower educational levels should pay more attention to their mental health during the pandemic since the pandemic is more likely to affect their everyday life.

**Keywords:** *COVID-19, Anxiety and depression, Age groups, Levels of educational backgrounds, Health impacts, Source of income*

## 1. INTRODUCTION

The global pandemic disease COVID-19 came to the world so abruptly that people did not even realize and be prepared about it. The ongoing COVID-19 pandemic has caused almost 272 million confirmed cases worldwide now reported by the WHO [3]. Every day, the messages and news are all about COVID-19. The increasing number of confirmed cases and death cases has made the public extremely anxious and worried. People are scared of being infected by the disease, meanwhile, they are in fear of infecting others without knowing it. The COVID-19 pandemic has caused different mental stress symptoms in people of different age groups due to the isolation that restricts so many opportunities in people's school and work life.

The pressure level of the pandemic varies, but the exact reasons are not understood. The triggers that have caused individuals to experience stress are unclear. A series of stress-induced impacts and consequences are not

given. There is also no practical solution, such as how to help individuals alleviate pressure. Through analyzing the data and articles created by the Centers for Disease Control and Prevention (CDC), this paper aims to explore the level of anxiety and depression in different age groups and educational backgrounds. Mental health is one of the significant components of overall health to people. Through the analysis of people's mental stress related to COVID-19, the paper puts forward constructive suggestions for people to overcome psychological stress during the COVID-19 epidemic.

## 2. LITERATURE REVIEW

Relative research have already been done to explore the impact of COVID-19 on people's mental health, as well as the factors that have led to this situation.

According to Sun et al., gender, present location, epidemic area contact history, and classification of population are the factors that can lead to a higher chance of having post-traumatic stress disorder (PTSD). First,

they claim that female respondents in this survey have a higher chance of having PTSD than male respondents because, according to Christiansen and Hansen, women are more likely to have depression, somatic anxiety sensitivity, and feelings of helplessness [10]. Second, Sun et al. state that people in Hubei, where COVID-19 initially arose, had the highest risk of having PTSD. As a result, those who have been exposed more to COVID-19 are more prone to develop PTSD because they believe they will be readily harmed by the virus in such places. Furthermore, Sun et al. also believe that confirmed or suspected patients, as well as people who have had close contact with confirmed patients, have the most severe PTSD symptoms [7].

According to Boyraz and Legros, many people are more exposed to COVID-19 as a result of their work or job obligations. During the COVID-19 epidemic, for example, business people can work from home. Low-wage workers, on the other hand, must continue to labor in person. As a result, individuals who work in certain fields are more likely to contract the virus, thus experiencing worry and anxiety, such as the fear of becoming sick and infecting others [8].

Lei et al. (2021) analyze survey data from 1593 people in southern China and discover that males, younger people, and health care workers are at a higher risk of having PTSD, which is linked to a high level of COVID-19 exposure. Different from the survey result of Sun et al., Lei et al. state that males have a higher risk of having PTSD than females because they have more difficulty expressing their feelings or releasing their stresses, which can lead to profoundly unpleasant emotions. Furthermore, there are two reasons that the authors talk about why younger people are more likely to suffer from PTSD than middle-aged people. First, younger people lack life experiences, making it difficult for them to deal with personal issues. Second, because younger individuals are more likely to utilize social media, they are more likely to be exposed to pandemic-related information, which might negatively affect their emotions. Additionally, the authors state that because health care workers work and fight on the front lines in hospitals or communities, dealing with COVID-19 patients, they have a considerably higher chance of having PTSD. As a result, health care workers are more susceptible to the virus in hospitals [9].

### 3. DATA AND METHODOLOGY

The data of these two charts were extracted from the data table of Indicators of Anxiety or Depression Based on Reported Frequency of Symptoms from the CDC. The data table is collected from the Household Pulse Survey created by the National Center for Health Statistics and Census Bureau. It is used to investigate people’s mental health conditions responding to COVID-19. It provides a lot of groups that are investigated by age, gender, race, or

education, etc. [4]. The focus of this research is the differences in people’s mental stress levels in different ages and education. Two bar charts of the Ages vs. Indicators of Anxiety or Depression and the Education vs. Indicators of Anxiety or Depression have been created. The data used in these two charts are acquired from April 23, 2020, to May 10, 2021. The x-axis in Figure 1 represents 7 age groups, which are 18-29 years, 30-39 years, 40-49 years, 50-59 years, 60-69 years, 70-79 years, and 80 years and above, while the x-axis in Figure 2 represents 4 educational levels, which are less than a high school diploma, high school diploma or GED, some college/associate’s degree, and bachelor’s degree or higher. Both of the y-axes in the two figures represent the frequency of anxiety or depression, which is built on the pandemic.

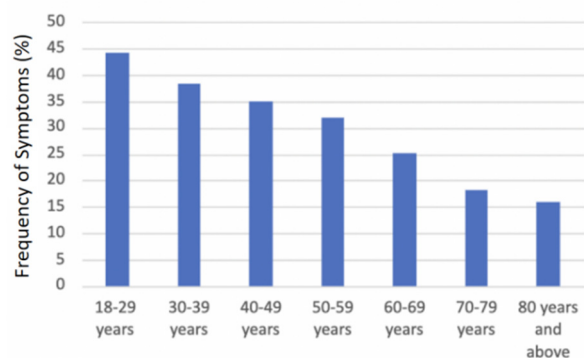


Figure 1 Ages vs. Indicators of Anxiety or Depression.

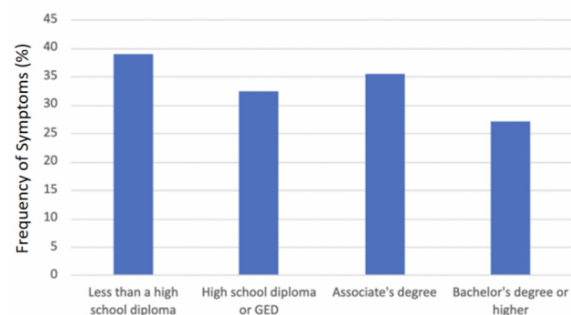


Figure 2 Education vs. Indicators of Anxiety or Depression.

### 4. RESULTS

Figure 1 shows that the frequency of anxiety or depression decreases from younger ages to older ages. The result reveals that young people are more prone to be anxious about COVID-19, while the elderly are less frequently anxious about COVID-19.

Figure 2 shows that the frequency of anxiety and depression decreases from lower education to higher education. As shown in Figure 2, people who have less than a high school diploma have the highest level of anxiety and depression, so they tend to be more anxious and depressed, while people who have a bachelor’s degree or higher have the lowest level of anxiety and

depression, so they tend to be less stressed. Figure 2 also shows that the level of anxiety and depression in people with high school diploma or GED is lower than people with some college or associate degree. This might be because part of the people with an associate degree are more focused on preparing themselves for a particular career in a short time. They intend to learn more practical vocational skills, so that they can enter the workplace as soon as possible. This may cause their high anxiety and depression in spite of their relatively high education.

## 5. DISCUSSION

The reasons for the above results may consist of the following five aspects, different goals in life, different ranges of social activities, different speed of accessing information on social media, different working modes and incomes, and different attitudes toward problems.

### 5.1 Different goals in life

In Sophie McMullen's article *Why Is the Pandemic So Hard on Young People*, the author referred to Stanford psychologist Laura L. Carstensen's "socioemotional selectivity theory" that young people view time differently than older people and have distinct priorities and relationships. Young people prefer to concentrate on knowledge-seeking objectives because they have a lot of time left, for example, engaging in a long-term goal or objective. They are unable to acquire new skills and face-to-face education during this pandemic, and to achieve in their careers. In other words, most young people mainly focus on their study and career, but the outbreak of COVID-19 affects their education and work, which makes them anxious.

Older people, on the other hand, view their time as minimal and prefer to concentrate on emotional objectives. Therefore, over time, the feelings of people shift due to their different goals in life. According to Benedict Carey (2021), age and emotional well-being increase hand in hand. He cites the fact that people over 50 experience more positive emotions and fewer negative emotions than younger people [14]. In addition, the author discusses two studies on mental health and aging. Dr. Carstensen's research group (2020) conducted the first study. According to the findings of this study, younger people have more negative emotions while elderly people have fewer negative emotions [12]. Psychologists at the University of British Columbia (2020) conducted the second study. According to this study, older people are less concerned about COVID-19 and have more positive sentiments [13]. Carey (2021) claims that as people become older, they have greater coping abilities and the ability to avoid or lessen stressful events and risks, based on these studies on mental stress and age [14]. One of the reasons that older people are less stressed than younger ones about the pandemic is that

they have fewer things to worry about. In comparison to younger individuals, elderly individuals do not have to worry about education because they have already lived out their lives in retirement. They also have less financial or income pressure as they get older because they have some savings.

### 5.2 Different ranges of social activities

Young people are more likely to experience anxiety and depression than older people during the pandemic because of their different social circles. The perceptions of people often shape their social lives. Young people prefer their social interactions to be maximized. They miss the chance to enjoy a concert with friends, to go on a date, to search for a lifelong partner, or to attend a networking activity to help advance their careers during COVID-19. They do not know how long the quarantine policy will last and when will the COVID-19 end. All these missing opportunities, strict restrictions, and unknowns can be the factors that cause young people stress. But older individuals are already retired and appear to be more selective, being left with a closer group of friends and relatives who may live far from each other but retain an intimate relationship. Even though there is no pandemic, still, older people will not spend a lot of time and energy holding a party or visiting friends. Therefore, older people are less worried about the social restrictions that COVID-19 brings to them.

### 5.3 Different speed of accessing information on social media

The anxiety of young people is great, and it may also be linked to the amount of knowledge young people get and the fast speed with which information is acquired. Old individuals get data late and slowly, so the information about the epidemic does not affect them directly [2]. Take Twitter as an example, the article "Social Media Use in 2021" states that 42% of the U.S. adults at ages 18-29 use Twitter, 27% of the U.S. adults at ages 30-49 use Twitter, 18% of the U.S. adults at ages 50-64 use Twitter, and 7% of the U.S. adults at the age 65 and above use Twitter [6]. Thus, there is a high frequency of social media use in younger people.

The research article about social media use and mental health during the COVID-19 pandemic written by Zhao and Zhou states that 512 college students in China have been investigated about their mental health conditions during the pandemic through an online survey, and the result shows that the higher frequency of social media use results in higher mental stress [5]. In addition, the authors state: "excessive exposure to disaster on social media may trigger negative affect, which may in turn contribute to mental health problems" [5]. Therefore, confirmed cases, death cases, symptoms after being infected, and residual problems or relapse after the

recovery from COVID-19 being reported by social media can be disaster stressors, which can negatively affect young people's mental health unintentionally.

#### **5.4 Different working modes and incomes**

People with high academic qualifications tend to have good and stable jobs, so they will have a stable income. With their capabilities, they can also endure the burden of briefly losing their jobs during the epidemic. In addition, certain highly educated individuals may work online, as many businesses may prefer to work online. On the other hand, people with low academic credentials do not have good jobs and receive low wages. Their low education determines that they will not be able to work at home, such as taxi drivers and attendants. They were unable to bear the family's expenses when the pandemic broke out, so it would cause them to feel a lot of distress. For example, COVID-19 has caused people to lose their jobs, and their medical care will not be paid for by companies. They will have no money to see a doctor if they get infected and die. These are all variables that they must consider, and they are the causes of stress as well.

A lot of people choose to get an associate degree in a shorter time so that they can go to work earlier because they are interested in learning skills in particular areas. The pandemic, on the other hand, has resulted in economic shifts. People's work modes, employment rates, and earnings have all changed dramatically because of it. Therefore, people with an associate degree may have mental stress and illness as a result of all these issues.

During these two years, the work pattern shifted from offline to online. People with associate degrees have some drawbacks when working online, despite the fact that it gives much more security. Work hours may be extended as a result of working time flexibility. Online working may lead to misunderstandings, and environmental changes may affect the quality of work. People with associate degrees generally specialize in some vocational skills and it is better to perform their work in the workplace. In other words, people with associate degrees cannot perform their skills very well and their working abilities cannot be well reflected to the leaders when working online. In addition, they will not be able to develop or improve a lot through online working.

Low employment rates make it difficult for people with associate degrees to obtain suitable jobs following graduation. According to Belfield and Brock (2021), the pandemic's impacts were not uniform across employees and sectors. Certain jobs became near-obsolete very quickly and the unemployment rate is increasing dramatically. The authors give an example about the difference in unemployment rate before and after the COVID-19 pandemic: the unemployment rate for people with associate degrees was 3.7% in March 2020 before

the pandemic, then the unemployment rate rose to 15% in April 2020 [11]. As a result, the global economy can shift dramatically in a short period of time. People with associate degrees are concerned about the COVID-19 pandemic. They do not want to lose their jobs but the situation is getting exacerbated because the economic downturn caused by the pandemic is inevitable. As a result, changing work patterns and the rising unemployment rate are the sources of stress to people with associate degrees during the pandemic.

#### **5.5 Different attitudes toward problems**

Those with a prominent level of education have greater access and the opportunity to collect data than those with a low level of education. They are less susceptible to rumors, so they may be more calm and rational to face the epidemic development and have stronger capabilities. People with low academic qualifications, however, are more likely to listen to rumors and do not have adequate expertise to evaluate the epidemic's potential growth. They will face more unknown circumstances, so they are more likely to be anxious.

### **6. CONCLUSION**

Age and education are both factors that affect the degree of depression and anxiety. According to the research results, people with lower age or education levels should pay more attention to their mental health during the pandemic. The probable reason is that the pandemic is more likely to affect their everyday life. Mental illnesses are harder to detect than physical illnesses. Therefore, during the epidemic, in addition to protecting physical health, everyone should protect mental health. People themselves need to do a good job in personal self-protection, have regular working and resting patterns, moderately strengthen the bodies by physical exercise, and learn to have some appropriate communication with people around them. Also, they can cultivate some interesting hobbies to transfer their energy and attention. Mental health experts and professional insiders should appeal to people to pay attention to the negative impacts of the COVID-19 outbreak on people's mental health, including anxiety and depression. To this end, during the pandemic prevention period, countries should formulate work plans for psychological counseling for different groups of people, send selected mental health professionals to assist people in the disaster areas, and carry out psychological assistance and crisis intervention through hotlines and online platforms.

A limitation of this study is that the amount of data and evidence is not enough. The author should cite more useful and relevant evidence to support her argument. Another limitation is that this study extracted data from

several sources, so an improvement can be made by an online survey about mental health problems.

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