Correlation between Social Isolation and Depression in Teenagers

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Abstract: Although the world has at large moved on from the social distancing and isolation of the COVID-19 pandemic, the issues presented then remain relevant; many teenagers still struggle with mental health issues in the aftermath of COVID-19. While social isolation itself is not harmful, the depression and severe loneliness seen during long periods of involuntary social isolation is a prevalent issue among teenagers, and numerous teenagers find themselves socially isolated or struggling with mental health, even without the many restrictions placed during COVID-19. This paper mainly focuses on the correlation between social isolation, loneliness, and depression, in teenagers, as well as how this presented itself during the COVID-19 pandemic. This paper also proposes a study based on determining whether nature walks or FaceTime calls are more effective in combating social isolation and loneliness to better maintain good mental health.

Keywords: Social Isolation, Loneliness, Depression, Mental Health, Teenagers

1. Introduction

In late 2019, a new strain of virus, SARS-CoV-2, suddenly emerged, taking the world unprepared. By March 11, 2020, WHO had declared COVID-19 a pandemic, and states began to implement shutdowns. Schools, businesses, and travel plans were all set on pause as the nation struggled to overcome COVID-19 s high transmission rates. Many public quarantine regulations were placed to prevent the spread of this highly contagious virus (CDC, 2023). Although quarantine and isolation policies were relatively successful in their goal of controlling the spread of COVID-19 and protecting the public s health, they also caused a national spike in mental health issues, especially that of teenagers. Due to quarantine policies during the COVID-19 pandemic, many people grew increasingly isolated from their friends and family. However, as humans are inherently social creatures (Harari, 2015), this widening gap of social disconnect has caused many problems.

Without the human need for social connection fulfilled, rates of depression and other mental health struggles soared during the COVID-19 pandemic. Depression is defined as a mental disorder that causes recurring feelings of constant sadness (Torres, 2020). It can cause people to lose interest in the things they are passionate about, decrease productivity, and, in severe instances, cause an individual to contemplate suicide. Depression can be caused by a variety of factors, including not getting enough sun. While direct sun exposure releases serotonin, a neurological transmitter that delivers positive feelings, not being expose to enough sunlight can cause depression and poor mental health (Morris, 2019). Since most people were not going outside during the COVID-19 pandemic, it was difficult to get enough sunlight every day. Another factor that causes depression is social isolation, which is defined as the lack of social contacts and having few people to interact with regularly (NIH, 2021). As its name suggests, social isolation occurs when

one is socially isolated, something that was quite common during COVID-19, when much of the nation was under shutdowns and quarantines.

1.1. Statistics

As a consequence of social isolation, rates of loneliness around the world increased. A study from 2020 with over 20,398 respondents from 101 different countries found a sharp rise of 21% in reported feelings of severe loneliness and social isolation during the COVID-19 quarantine (O Sullivan et al., 2021). Furthermore, people who experienced loneliness during quarantine were observed to have lower levels of satisfaction and poor mental health (O Sullivan et al., 2021). Another case study from 2021 conducted by analyzing data from over 32 billion private claim line records discovered an alarming 334% increase in intentional self-harming found in American teenagers during the COVID-19 pandemic as compared to data from the same month just a year ago (FAIR Health, 2021). In addition, while general United States medical claim lines in March and April 2020 decreased by 54% from the same months a year ago, mental health claim lines increased by 97.0% and 103.5%, as shown in Figure 1 (FAIR Health, 2021). Depression, anxiety, and adjustment disorders all spiked during March and April 2020, the height of the COVID-19 quarantine as illustrated by Figure 2 (FAIR Health, 2021). From these statistics, it can be seen that the isolation that was required during COVID-19, and the loneliness that came with it, had a significantly negative effect on the mental health of teenagers in America.
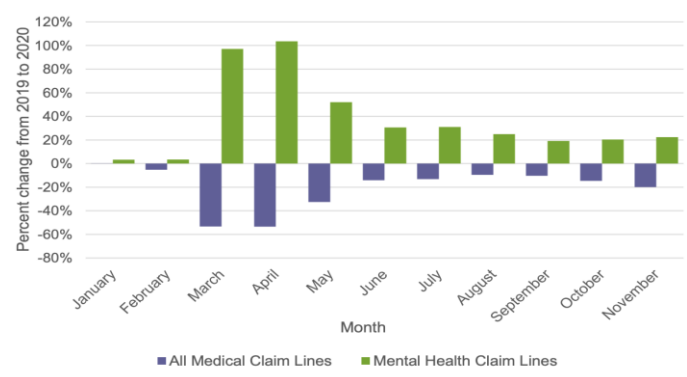

Figure 1. Percent change in medical and mental health claim lines from 2019 to 2020 (FAIR Health, 2021)
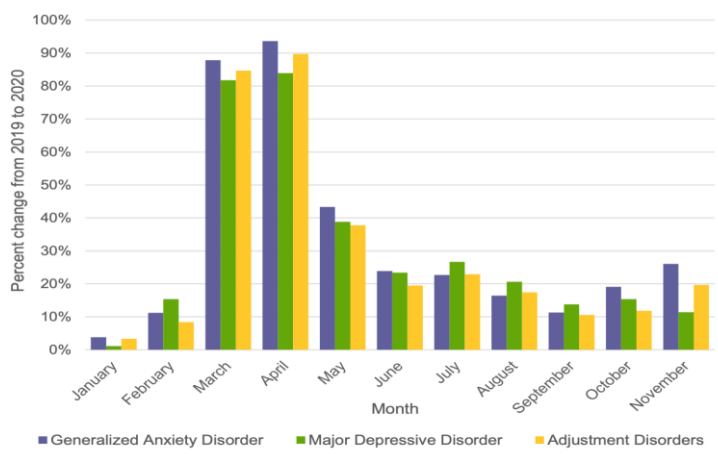

Figure 2. Percent change in anxiety disorder, major depressive disorder, and adjustment disorders from 2019 to 2020 (FAIR Health, 2021)

1.2. Social Isolation and Poor Mental Health

The correlation between loneliness and poor mental health is further supported by a study that measured loneliness by asking questions including, How often do you feel as though you lack companionship," and How often do you feel left out," as well as asking the participants, who were all twins, to rate the truth of statements such as I can count on my friends when things go wrong" and There is a special person who is around when I am in need"(Mathews, 2016). The association between loneliness and poor mental health was found to be strikingly high, with loneliness as a huge risk factor for depression (Mathews, 2016). In addition, severely lonely people were found to approach life in a more pessimistic, anxious, and hostile manner (Mathews, 2016). However, if quarantine is a government-mandated policy designed with public safety in mind, how does one maintain good mental health all the while staying isolated? In addition, what if someone does not have a supportive social network? Of course, it cannot be stressed enough how important it is to adhere to the social distancing guidelines for the general health of the public. Further, it must be acknowledged that some people are socially isolated for reasons outside their control, such as their choice of profession or living arrangement.

2. Maintaining Mental Health

One way people can be both socially isolated and preserve their mental well-being is by developing their connection with nature. According to one study that measured thirty-eight participants affective and cognitive functioning before and after a walk, the participants who walked through a natural environment had lower neural activity in an area of the brain associated with mental illness as compared to those who walked through a metropolitan setting (Bratman et al., 2015). This demonstrates nature s aid in warding off mental illnesses, as well as its importance during social isolation. In addition, walking in nature can help one get enough exposure to sunshine, resulting in more serotonin (Morris, 2019).

Another way people can stay socially connected while in social isolation is through modern technological inventions such as FaceTime, Messages, or WeChat. A study from February 2021 analyzed loneliness levels in volunteers who were called 2-5 times a week and discovered that phone call participants who averaged 6.5 on the UCLA Loneliness Scale at the start of the study ended at 5.2 (Kahlon, 2021). Although the results from this study discussed above indicate that phone calls may help with mental health, a May 2020 paper found an uncertain correlation between phone calls and a decrease in loneliness. In this paper, in which three studies of about 201 older participants video called for three, six, and twelve months, little evidence was found to suggest that video calling may aid the improvement of mental health, and no substantial conclusion could be drawn (Noone et al., 2020).

Another study advocates for a more widespread use of social media, proposing an easy-to-navigate app for older adults to stay in touch with their family and friends and prevent social isolation. The author suggests that, because older adults do not understand how to use technology such as social media well, they are more likely to become socially isolated (Zeng, 2020). However, despite a 2018 study by Hopelab and Well Being Trust finding that 93% of teenagers use social media regularly (Rideout & Fox, 2018), poor mental health remains an issue, as established by the statistics above. This is further supported by how, while 80% of people under 18 are lonely sometimes, only 40% of those over 65 report the same, as pictured in Figure 3. In addition, despite having on average hundreds of social media friends, most social media users reported trusting only about 4 of them for support during a crisis (Hartman, 2023). As such, perhaps a more neutral approach should be taken to determine whether developing a connection to nature through exercise outdoors or using social media to virtually connect is more effective.
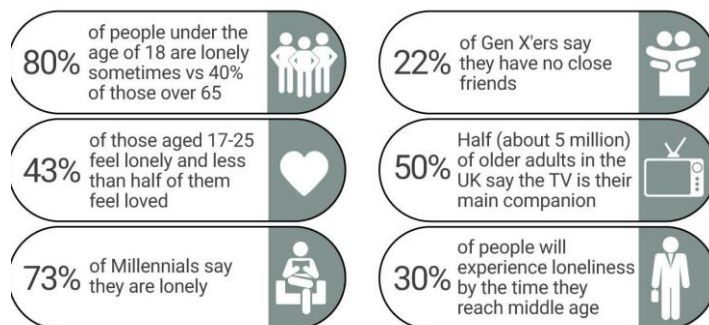
Figure 3. Percentage of loneliness in different age groups (Hartman, 2023)

3. Methods and Discussion

The primary objective of my proposal is to determine the best ways to maintain good mental health in American teenagers during times when social isolation is required. This study will mainly be focused on connection with nature and connection through technology to determine which would be the better solution.

To answer the question of whether or not walking in nature and FaceTime is effective, and, if so, which is more effective, I propose a case study on American teenagers. In this study, most of the participants should be around 14 to 19 years of age and have similar levels of loneliness, financial and familial stability, and live in the United States. In addition, there should be an even split between both male and female individuals. The UCLA Loneliness Scale, which calculates participants loneliness by asking them to rank statements such as I find myself waiting for people to call or write" and My social relationships are superficial," can be used to measure the loneliness of the participants at the start of the study. From here on, the teenagers can be split into three equal groups. One group will walk among nature for at least thirty minutes a day with regulations such as similar environments and no use of electronics, while participants in another group will FaceTime other participants for at least 30 minutes a day. As an example, all the participants in the nature walk group could walk in the woods, or the participants in the FaceTime group could be required to talk for at least 25 out of the 30 minutes of Facetiming. A third group will act as the control group, and they will be asked to do neither of these activities. All three groups will fill out the UCLA Loneliness Scale every thirty days for 6 months. At the end of the six months, a final survey should be posed asking the participants of the two experimental groups about their satisfaction levels and whether or not they believe the walks in nature or FaceTime calls helped improve their mental health. In this survey, questions such as, Do you look forward to your walks in nature or FaceTime calls?" and Will you continue them after the end of this study?", may be asked. Finally, the data collected may be averaged and compared on both a monthly and final basis. However, more studies should still be done to ascertain the true mental health benefits of walking in nature and/or Facetiming for 30 minutes a day.

The completion of this study would provide further insight into the upkeep of good mental health in American teenagers. If the participants in either experimental group reported higher scores on the UCLA Loneliness Scale on average at the end of the study, then further studies should be done on how it can be incorporated into the daily lives of American teenagers. For example, nature walks or Facetiming could be recommended for people who are experiencing loneliness, or poor mental health, or just as prevention. FaceTime support groups could be created for teenagers to access whenever they feel like they need company. These activities may help lessen and prevent many mental health struggles. More nature trails,

parks, and paths may be built, and perhaps walking around in nature can be introduced as a sports option for school. In addition, studies on how differing environments and habitats, such as deserts, beaches, and forests, could affect the results should be done. However, in the case that the control group instead fared better, or the differences between the experimental and control groups were too small to be measured, some further areas to explore could be other single-person activities such as journaling, gardening, or fishing. By finding ways to ease the effects of social isolation and severe loneliness, these results may be implemented for teenagers who are socially isolated or experiencing severe loneliness.

4. Conclusions

While it would be difficult to eradicate severe mental health problems such as depression altogether, its repercussions may be negated or possibly even averted. By finding accessible ways to treat often overlooked mental health problems, like social isolation and loneliness, that often lead to depression and other severe mental health issues early on, one s mental health and inner peace can be further maintained. Taking walks outside and receiving sunshine releases serotonin, which can make one feel happier and more connected, albeit to nature. Talking through social media and calls may help one stay in contact with their loved ones and allow for social interaction, even in the face of physical distance. Although these things cannot completely eliminate mental health struggles, they may be found to prevent further struggles, as well as alleviate occurring ones.

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