

Mental Health Amid COVID-19

Problem Statement

The COVID-19 pandemic has affected all facets of life; an estimated \$16 trillion¹ cost in the US alone, global quarantines shutting down borders, and a temporary sudden shutting down of society as we knew it. These changes were substantial and had a profound impact on mental wellness, as all individuals were directly or indirectly affected by COVID-19. With 2.4M deaths and 109M cases globally thus far (as of 2/14/21)², the toll of death and disease had an enormous impact on mental health.

From monetary costs to burdens of death to the isolation of extended quarantine, several factors are impacting mental health. This project aims to look at a student's mental health amid the COVID-19 pandemic to identify the central causes of distress.

"I'm just in another four-walled space. It's just moving from one wall -- one area with walls to another area with walls." – Anonymous interviewee

Methodology

Techniques

For this experiment, surveys and interviews were optimal to determine the cause of the mental health decline among college students. Electronic Typeform surveys were valuable for three key reasons. First, mental health is highly stigmatized, so an anonymous option for participants to fill out without fear of judgment or retaliation was immensely valuable in maintaining a judgment-free and as close to a bias-free response from participants. Second, online surveys are a necessity among the socially distanced times we are living in. When looking at this question, had this survey been conducted in-person, the sample of those that were active and milling around, and willing to engage with a stranger are likely inherently different than the average population. Those that are more willing to engage in this risky activity may not be as burdened by the effects of the pandemic, thus likely influencing their mental health. So,

¹ Cutler DM, Summers LH. The COVID-19 Pandemic and the \$16 Trillion Virus. *JAMA*. 2020;324(15):1495–1496. doi:10.1001/jama.2020.19759

² <https://www.nytimes.com/interactive/2020/us/new-york-coronavirus-cases.html>

an online survey of random participants seems to be a more attractive sample. Third, surveys are an efficient means of collecting larger amounts of data. When studying something as personal and pliable as mental health, it is important to collect large amounts of data. Each individual will likely vary greatly in their experience amid the pandemic, so larger sets of data would be more helpful when trying to identify correlations.

Individual interviews were another key need-finding technique. While surveys were more useful in identifying larger health trends, interviews were useful in identifying specific qualms and mental health concerns. Subjects were asked the same set of questions in the same order, and responses were immensely helpful in understanding the overarching issues that persisted across interviews. Additionally, since these interviews were recorded, they proved especially valuable for future analysis.

Survey Selection

This survey was designed for any college student and it was distributed both to friend circles of the interviewer and the *Class of 2022* Facebook group. The survey was entirely anonymous and distributed only to groups of students that match the criteria for this study. Otherwise, individuals within the class of 2022 at the University of Rochester were self-selected based on willingness to complete a two-minute survey. This is understandably not a representative sample of individuals, but given the narrowed scope focusing on the mental health of college students, this sample seems adequate.

Interview Selection

The purpose of interviewing was to collect a diverse set of opinions of college students of various backgrounds. There were three categories of college students to explore over the course of three 5 to 10-minute interviews: students living at home, students living independently at school, and students living in a cohabitated space. Since this study sought to understand how COVID-19 has impacted mental health, one major concern among participants was a feeling of loneliness and isolation. Understanding these three perspectives, given how diverse they are in terms of casual social interactions, proved very valuable. Beyond selection based on living situation, participants were also controlled by age. First-year college students experience a radically different college lifestyle than older college students due to the nature of their tightly knit housing situation and abundance of changes, especially amid the global pandemic. Given the uncertainty caused by their instability, they were eliminated from interview selection. Additionally, there was the challenge of selecting those that would be trusting enough to expose potentially sensitive mental health concerns. To alleviate this burden, only individuals with an existing relationship with the interviewer were selected. Although this relationship could introduce bias, these interviews were valuable for the fact that they allowed for the development of a deeper understanding of issues facing students amid the COVID-19 pandemic. An honest and helpful conversation was only possible due to the existence and comfort formed by an existing relationship.

Survey Design

There were several considerations when creating this survey. First, the aim of this survey was not to identify specific qualms regarding COVID-19 but was to identify any causal links between unsatisfied beneficial activities and mental health. Common activities relating to mental health were social time, exercise, and sleep. To avoid priming users to artificially inflate their engagement in these activities, they were asked to rate their mental state after already defining their activity levels.

Second, this survey was designed to be as short as possible in an attempt to gather as many responses as possible. Although just 32 people responded, the short length of the survey may have been valuable in collecting that many responses, especially considering random respondents with nothing to gain from its completion.

Third, for questions with a rating scale, 7-point Likert scales were used. This was a design decision to allow for a neutral casting, especially for current mental state, which seemed valuable as this survey was under the guise of understanding the impact of COVID-19 on mental health – not the negative repercussions of COVID-19. This neutrality offered by Likert scales enabled this guise, as compared to asking participants a weighted question like “How much worse off are you...” or anything else of that nature.

Fourth, there was an inclusion of a word selection question to identify feeling most closely associated with COVID-19. This was included to better understand the general feelings of students amid the pandemic and help guide interview questions. The words were chosen based on findings from *Qualtrics* regarding surveying for emotion³. An equal number of positive words and negative words were provided, and an “Other” option was available for participants to include their feelings. Additionally, these words were given to users in a random order to avoid primacy and recency bias.

Interview Design

The interview portion of this study was designed to be informal to gather as much qualitative data from subjects as possible. The intention behind interviews was to better understand the most prevalent issues facing college students in a variety of housing situations to identify the most pressing causes of harm to mental health. This required several considerations.

First, the interview questions were designed to understand feelings associated with given activities to provoke some emotional response. After understanding the activities that respondents completed and sought to complete, they were asked to reflect on their responses and were prompted with opportunities to be creative. This was included to identify needs that were not being met. For example, see the following quote from an interview:

“...if I had no financial constraints, I could bring all of the people that I love and the entire world in one big mega house in the same place. And then when

³ <https://www.qualtrics.com/experience-management/research/asking-about-emotion-in-customer-experience/>

I feel like hanging out with my nuclear family, I'll sit in room A. And when I want to go see my friends or just walk down the hall and see them in room B, something like that, where I could have everything that I wanted all in one place -- perfect for me.” – Anonymous interviewee

Although there isn't much value in understanding the details of a mega-house, this clearly captures some needs – the need for autonomy in selecting groups, the need for more space, the need for changing scenery, the need for socialization, and more. Opportunities for this style of creativity allow for a unique understanding of needs that aren't being met by allowing participants to reflect without monetary or reasonable hindrance.

Second, interviews were recorded and transcribed but kept anonymous. This was a decision made after multiple participants expressed concern regarding the confidentiality of their responses. Mental health is a private issue, and it seemed most practical, in terms of comfort and trust, to separate respondents from their responses. This also allowed for more invested discussions, as participants were assured that they would not be associated with their response.

Third, questions were largely rigid, with some attempt made during interviews to stay on topic. The same questions were asked to all participants to remain unbiased across all interviews. All interviews were also given by the same individual to avoid additional variables across interviews.

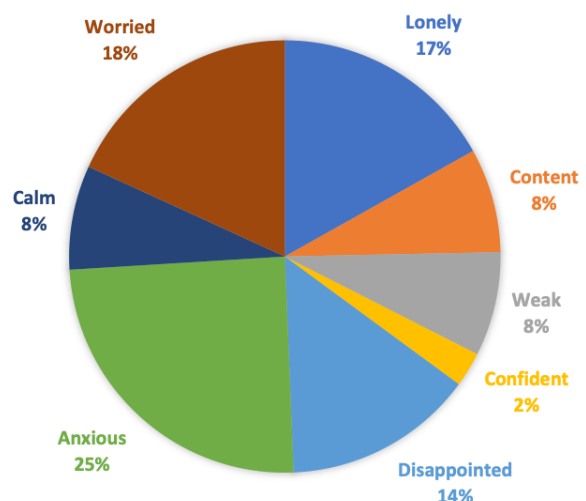
Results

Survey

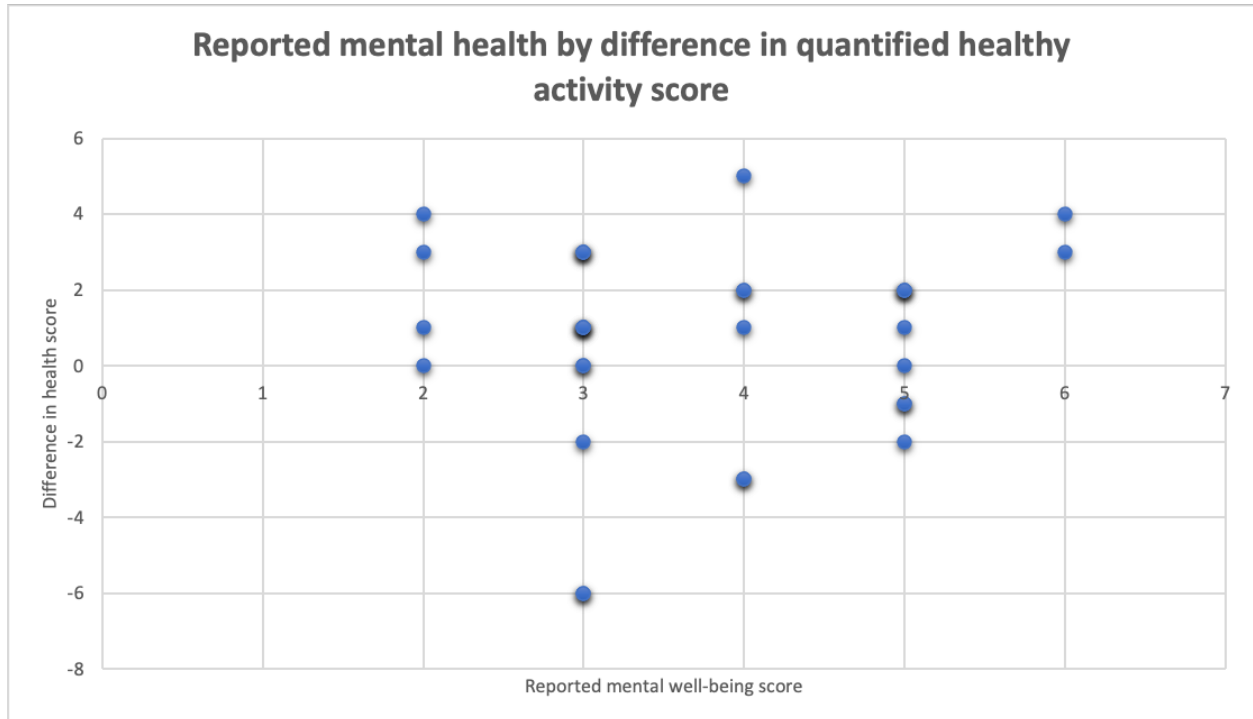
As discussed, this survey was designed to gauge mental health among college students, and better understand the behavior that may be influencing this behavior. From the survey, the average mental health score was 3.75 out of 7 – just .25 units from neutral. However, these findings are not supported by the word choices of respondents. The most common qualm reported by participants was anxiety, with 23% of responses reporting anxiety. This was followed by worried, lonely, and disappointed, with 18%, 17%, and 14% respectively.

In terms of understanding potential behavior that led to this worsening mental health, participants were asked to note how often they performed certain healthy activities. Each response was assigned a health score between 0 and 4, with 0 being

Reported emotions amid COVID-19



unhealthy and 4 being very healthy. Then, the sum of these scores was found and compared to amid the COVID-19 pandemic and behavior prior to the pandemic. From this overall analysis and studying each respective health activity, there was no visible correlation between these healthy activities and reported mental health among this sample.



Interviews

Interviews yielded consistent sentiments across participants of variable living conditions. Full transcriptions are attached along with this report. The most substantial finding of the interview phase was a better understanding regarding the issues that are most impactful in terms of mental health. Participants unanimously reported that isolation and stagnation in one place was a significant reason for mental struggles amid the pandemic. All participants also reported their regular routine activities were disrupted, but all of which seemed to have substitutes.

The other common finding was alternative forms of socialization. One participant reported using online tools to collaboratively watch television online and listen to music with acquaintances. Another participant reported staying connected using consistent virtual calls to stay connected with friends. The sentiment of connection to others was a consistent need that was addressed by all participants in some capacity. Overall, these interviews were immensely valuable in determining the needs of individuals and the activities that they have taken to fill those needs thus far.

Iterations

Due to strict time constraints, only one formal iteration was performed in this study. However, prior to the release of the survey and the first interview, individuals were asked to provide feedback on the questions. This informal drafting was vital in eliminating confusing questions and ensuring the survey was behaving as intended. For example, during this informal iteration, one reviewer noted that the multiple select option failed to allow individuals to select multiple at once.

Additionally, reviewers were helpful in assessing the quality of questions to be asked during the interview stage. Interviews were designed to be conversational, so additional feedback regarding word-choice and tone from volunteers was utilized in an attempt to improve upcoming interviews.

Discussion

Findings

The survey did not output expected results. The hypothesis for this question was that the pandemic influenced basic needs -- like socialization, exercise, and sleep – which is what is causing this rise in mental strain. However, the results of the survey did not support this conclusion. It seems that pandemic-specific stresses and discomfort and anxiety regarding both the certainty of this affliction and uncertainty regarding the resolution is the greatest issue facing mental health. Interviewees supported this notion by repeatedly stressing the impact that staying in the same place has on their mental health. Additionally, survey participants and interviewees support the notion that socialization and isolation has a strong impact on mental health.

While the survey failed to find a correlation between any given healthy activity and mental health, they did prove to be valuable in showing that these activities were not significantly impacting mental health. Even those with a large disparity between pre-COVID and pandemic habits had variable mental health statuses. This offers some support to the notion that exercise, formal socialization, and sleep are not direct causes of the mental health concerns.

Exploring applications for these findings, one should note the recent publication from the New York Times, entitled “‘What’s the Point?’ Young People’s Despair Deepens as Covid-19 Crisis Drags On.”⁴ This paper notes that young people are especially impacted by mental health concerns. They discuss a variety of issues – from loneliness to despair to loss of precious years – and the impact of these issues on mental health. These findings seem to further reaffirm the conclusion that these mental impacts are far deeper than just exercise, socialization, and sleep, and are rooted in deeper issues impacting young people.

⁴ <https://www.nytimes.com/2021/02/14/world/europe/youth-mental-health-covid.html>

Limitations

The first concern was the scope of the research question. Deriving why people are complaining about mental health is too vague, and given the time constraint, it was rather difficult to source a sample that was adequately reflective of the world. So, narrowing the scope, this question was limited to the mental health of college students. Since the question posed was vaguer, this study only captures a subset of individuals rather than the entire population. In future iterations of this experiment, it would be valuable to repeat the survey and interviews with a sample more reflective of the world to see how it compares to the mental health issues among students.

The second was constraints due to time. As research progressed, more questions seemed to remain unanswered by existing questions. However, once begun, each iteration had to be completed before continuing in order to preserve already collected data. However, questions pertaining to "bubble" size, social media use, demographic information, hobbies, wealth, and more would have been immensely valuable in the effort to determine the cause of declining mental health.

Third, the survey questions were not well suited for the direction of this study. Upon reflection, these survey questions were suited for a general reflection of mental health – not a reflection of mental health amid the COVID-19 pandemic. Exercise, sleep, and socialization are metrics that can be used universally, but fail to target the specific concerns that were raised by complications with COVID-19. For example, isolation, living conditions, work status, or health would all be valuable insights into past and present mental provocations. This broad focus likely led to the failure to identify a clear correlation between self-reported mental health and activity.

Fourth, since the survey was anonymous and contained no demographic information, respondents may have filled out the survey that were outside of the desired range. Although efforts were made to prevent this (e.g., the survey was only shared with select desired groups), this could still pose a problem as it could have been shared by participants with individuals outside of the targeted range of college students.

Suggestions

The following are suggestions that can offer some respite to students and young people suffering from a decline in their mental health:

- Amid the pandemic, it is important to stay socially distanced. However, staying at home or in a dorm room exclusively is not recommended for mental health. Perhaps schools can add additional outdoor, weather-proof seating options. Tents and heaters are viable options for colder weather locations during the winter months. This would allow students to feel comfortable in variable locations with the hope that they will decide to peruse other locations.
- Rather than engaging in media at home, seek means of consuming media with friends. Interviewees recommended tools like [Netflix Party](#) to maintain a social life in other facets of life.

- Universities should bolster their mental health services. Students are reporting extremely high levels of anxiety, worry, and loneliness. Therapy and formal counseling are viable options to address these concerns.
- Although it presents some risk, having an in-person university experience is preferred for mental health. While virtual education eliminates a potential for spread of COVID-19, it also comes with the burden of greatly reducing everyday social interactions. These interactions were reported to be very impactful by interviewees to their mental health, and they can only be satisfied through in-person communication.

Appendix

Survey Questions - <https://cprl1t294cb.typeform.com/to/TTX1mCzn>

- Please indicate the frequency in which you engaged in the following:
 - How frequently do you **exercise**?
 - How frequently do you **socialize with friends**?
 - How much **sleep** do you get each night?
- How would you rate your mental wellness amid the COVID-19 pandemic?
- Thinking about your life amid the COVID-19 pandemic, which words best capture your experience?
- Please indicate the frequency in which you engaged in the following:
 - How frequently do you **exercise**?
 - How frequently do you **socialize with friends**?
 - How much **sleep** do you get each night?

Interview Questions

- Hi! I'm conducting an interview for one of my courses to learn a bit more about how the COVID-19 has impacted mental health. I'm going to ask you some questions and I'd just like to learn about your experience - no wrong answers, just learning! Are you ready to start?
- How would you describe your mental health as of late?
- What do you think is contributing to those feelings?
- Over the course of the pandemic, have you found that your mental health has changed?
 - IF YES
 - How has it changed?
 - What activities or changes caused the fluctuations in your mental health?
 - IF NO
 - Have your living and social conditions remained the same for the course of the pandemic?
 - IF NO
 - What changed?
- What activities do you think are most closely tied to your mental health?
- Thinking about those activities, how have they been impacted by the pandemic?
- If there wasn't a pandemic, what activities would you resume?
- Without considering money or feasibility, aside from eliminating the pandemic, what policy or change would you make to improve your mental health?