How the COVID-19 Pandemic has Affected the Overall Mental Health of Adults in the United States During 2020

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Introduction & Literature Review

In the middle of the COVID-19 global pandemic, individuals all over the world are experiencing limitations and other setbacks they have never experienced before (i.e. shortages of resources, uncertain health prognoses, infringing public health measures, financial losses, etc.) and these are undoubtedly increasing the levels of stress in each life. We used keywords such as mental health, COVID-19, pandemic, and substance use to find information that would pertain to the research topic at hand. We have noticed that the subject is in the prematurial stage where the study results are general.

However, there is research to prove that national and global traumatic events in the U.S. trigger an increase in mental illnesses (Galea, S., Merchant, R. M., & Lurie, N., 2020). Therefore, we wanted to research more in detail of how mental illness has increased after the COVID-19 pandemic began in the United States. We hypothesized that there would be an increase in mental health due to the pandemic. To test this hypothesis, we asked the question, "How has mental illness increased in adults after the COVID-19 pandemic?

Method

We chose the COVID-19 Impact Survey because it contained information focused on a relevant topic to us on a local, national, and global scale. This data was collected through surveys to varying age leves of adults in the United States, consisted of various questions about how the worldwide COVID-19 pandemic might be affecting different populations and their everyday lives, and generally used a scale of multiple choice answers for respondents to self-classify based on the options available. According to Covid-Impact.org, "The COVID Impact Survey is unique in that its methodological approach relies on an address-based random sample and also includes a range of questions about physical health, mental health, and economic security on a single survey. The results provide reliable estimates at the national level as well as for 10 states and 8 metropolitan areas, including for California, Colorado, Florida, Louisiana, Minnesota, Missouri, Montana, New York, Oregon, Texas, Atlanta, Baltimore, Birmingham, Chicago, Cleveland, Columbus, Phoenix, and Pittsburgh" (Data Foundation, 2020).

The final variables from the survey we used for this project were:

1.SOC5D: In the past 7 days, how often have you felt hopeless about the future?

2.SOC5E: In the past 7 days, how often have you had physical reactions such as sweating, trouble breathing, nausea, or a pounding heart when thinking about your experience with the Coronavirus pandemic?

3.PHYS3H: Has a doctor or other health care provider ever told you that you have a mental health condition?

Because SOC5D and SOC5E were continuous variables and PHYS3H was categorical, we managed our data in a way that would not combine them into new measures, but would allow the data to be filtered to delete any answers that would not apply to our initial hypothesis.

For our analytical strategy, an independent sample t-test was performed comparing the mean consistency scores of how many times the person had physical reactions regarding their experience with COVID-19 and whether the person has been told by the doctor that they have a mental health condition. The test equaled -0.333 and the p-value is "p-value < 2.2e-16" which shows that it has a significant relationship. It also shows that the mean for the group "no" in PHYS3HH is 1.08 and the group "yes" is 1.39.
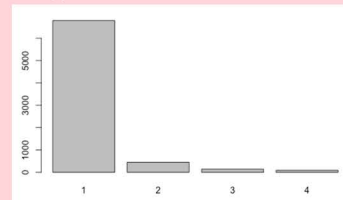
Results

SOC5D (In the past 7 days, how often have you felt hopeless about the future?): The average score for survey respondents was 1.6 days, the middle response was 1.0 days, and the Standard Deviation was 0.916. 62.17% of the survey respondents said they either didn't know or had not experienced these feelings at all or during less than one day, 22.16% said they had within the last 1-2 days, 8.59% said they had within the last 3-4 days, and 7.09% said they had within the last 5-7 days. For all intents and purposes, we can assume the overwhelming majority response to this question was that most people have not felt hopeless about the future due to the Coronavirus pandemic outbreak, which would not support our initial hypothesis.
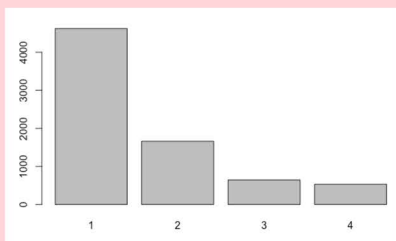

Results

SOC5E (In the past 7 days, how often have you had physical reactions such as sweating, trouble breathing, nausea, or a pounding heart when thinking about your experience with the Coronavirus pandemic?): The average survey response to this question was 1.1 days, the middle response was 1.0 days, and the Standard Deviation was 0.477. 90.93% of the survey respondents said they either didn't know or had not experienced these feelings at all or during less than one day and the rest of the respondents (9.07%) said they had experienced these feelings within the last 1-7 days combined. The graph shows us that an overwhelming majority of the respondents reported that they had not experienced these physical reactions at all and/or not within the last day (almost 7,000 responses). It would be safe to say most people have not experienced a physical reaction from stresses felt when thinking about the global Coronavirus pandemic outbreak, which also would not support our initial hypothesis.

Results

PHYS3H: (Has a doctor or other health care provider ever told you that you have a mental health condition?) Where yes would be recorded as 1 and no would be recorded as 0, the average survey response was 0.17, the middle response is 0.0, and the Standard Deviation was 0.37. 16.149% of those surveyed said that a doctor or other health provider has told them that they have a mental health condition prior to the worldwide COVID-19 pandemic, which is still significant when doing research on this topic. For some people who had been diagnosed with a mental health condition prior to the global Coronavirus outbreak, this condition may be exacerbated because of added stressors in the wake of the virus, but the diagnosis is not new and should not be directly attributed to such, which likely would support our initial hypothesis.
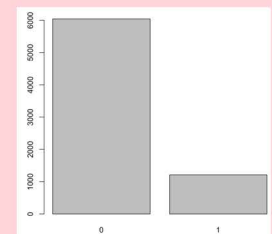
Discussion

Throughout all the hypothesis tests we have conducted over the last few weeks this semester, we have found that variables SOC5DD and SOC5EE were most closely related together with a positive relationship than PHYS3HH might have been, even though all variables have to do with mental health amidst the Coronavirus pandemic in key areas throughout the United States. Essentially, when SOC5DD was answered in one way, SOC5EE was also answered very similarly. To us, this would mean the global Coronavirus pandemic has had somewhat of a negative impact on mental health throughout all age groups, but the survey did not indicate as stark of a change in this factor as we might have assumed beforehand.

Additionally, the question asked in the variable of PHYS3HH (previously being told an individual has a mental health condition) only serves importance by providing prior context to the overall mental state to those surveyed before the Coronavirus might have become a worldwide outbreak. Essentially, COVID-19 has created a high-pressure, increasingly stressful landscape for many individuals around the world and in the United States, specifically, but the effects this might have on overall, lasting mental health on the global human race are just beginning to show and this survey depicted that. Our hypothesis originally stated a strong connection between overall mental health for adults in the United States would be negatively impacted by the worldwide COVID-19 pandemic, which is why we decided to study this topic in the first place. Our own experiences throughout 2020 in dealing with this global pandemic have been primarily centered around attending college as full-time students - which already presents high levels of stress in "normal" situations - and we have been able to see elevated levels of stress and mental health implications in our lives while doing so.

The biggest limitation to our research is time. The data set was gathered towards the beginning of the pandemic's appearance in the U.S., so it only shows the early mental health effects. Doing this same research in 5 years would open up the research in order to understand the longer lasting effects of the pandemic on adults' mental health.

Conclusion

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References

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