Loss of Mental Health Supports as a Result of the COVID-19 Pandemic

1. Have any data been collected for this study already?

Yes, but the primary researchers who will be conducting analyses for this study have not analyzed any of these data beyond descriptive statistics (counts of non-missing values, means, etc.).

2. What's the main question being asked or hypothesis being tested in this study?

This study investigates loss of mental, behavioral, and/or emotional support in the midst of the COVID-19 pandemic among undergraduate students at a large university. The goal of this study is to gather evidence on the extent of this loss and whether it differs by individual characteristics. Specifically, we seek to answer the following questions:

1. What is the extent of loss of support during the COVID-19 pandemic among members of a large university community?
2. Does loss of support differ by (a) sociodemographic factors or (b) levels of depression and anxiety symptomatology, including suicidal ideation?

This is an exploratory study and we do not have specific hypotheses regarding the extent of support loss, or whether/how it differs across the above conditions.

These data are collected in the Stony Brook University COVID-19 Survey (PIs: Jessica Schleider, Brady Nelson, Lauren Richmond, Daniel Klein, Bonita London, Sheri Levy) and analyses will be conducted primarily by Isaac Ahuvia, who has not analyzed the data beyond viewing descriptive statistics for variables (e.g. counts of non-missing values).

3. Describe the key dependent variable(s) specifying how they will be measured.

See codebook. The key dependent variable is a measure of loss of mental health support. The question, as it appears in the survey, is as follows:

> Have you **lost access to behavioral, emotional, or mental health support** because of the coronavirus pandemic?

Responses include:

> (1) YES, I have lost access to ALL of my supports,

(2) YES, I have lost access to SOME of my supports,
(3) NO, I am STILL GETTING the same supports, and
(4) Not applicable (I don't normally receive any support).

We are operationalizing this variable as a binary measure of any lost support, i.e. (1) or (2) will be coded as 1 and (3) will be coded as 0. We will exclude individuals who answered with response (4) for the present study, as these individuals endorsed not normally receiving support.

4. How many and which conditions will participants be assigned to?

No randomization will occur.

5. Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will conduct a series of difference tests (chi-square or independent-samples *t*-tests, depending on the structure of the grouping variable) to gauge whether reports of mental health support loss (groups: "lost some or all mental health support" versus "did not lose mental health support") differed as a function of the following (percentages/N of participants per cell in each difference test, where applicable, will also be reported):

- Race (White non-Hispanic, Black or African American non-Hispanic, American Indian or Alaska Native non-Hispanic, Asian non-Hispanic, Native Hawaiian or Other Pacific Islander non-Hispanic, Multiracial non-Hispanic, or Hispanic) - via 2*7 Chi-Square test
- Sex (male, female) - via 2*2 Chi-Square test
- Sexual minority (yes, no) - via 2*2 Chi-Square test
- Gender minority (yes, no) - via 2*2 Chi-Square test
- Suicidal ideation (presence [>0] vs. absence [0], per item 9 of the PHQ) - via 2*2 Chi-Square test
- PHQ-9 score (total, continuous) - per independent samples t-test (groups: "lost some or all mental health support" versus "did not lose mental health support")
- GAD-7 score (total, continuous) - per independent samples t-test (groups: "lost some or all mental health support" versus "did not lose mental health support")

For all chi-square analyses, we will only include categories that produce cells with expected values greater than or equal to 5—as calculated by McHugh, 2013: https://dx.doi.org/10.11613%2FBM.2013.018.

For all above analyses, we will interpret a $p < .05$ as a significant relationship between categorical variables (chi-square) or a significant difference in group averages (t-tests).

We will also report, descriptively, the percentages of participants reporting each of 14 COVID-related stressors—*education moved to online instruction; job/occupation/work moved to at home/remote/online; reduced hours or laid off from work; working extra hours at work; forced*

to change where you live; relatives or others have moved into where you live; lost childcare; shelter in place; self-quarantine; mandated quarantine; had to work to financially support your family; reunited with family members; illness of close personal contact; other—and the degree of overlap (in terms of *N* of participants) between those reporting specific COVID-related stressors and loss of access to mental health supports. This descriptive information may clarify *which* COVID-related stressors most commonly co-occurred with loss of access to mental health support within our study sample.

See the codebook for details on each variable noted above.

Sample of what output will look like:

Group	**% Lost Support (vs. did not lose support)**	**Difference Test Statistic [*t* or *chi-square*) change per ind. variable]**
Full sample	% (n)	--
Race		*X^2 statistic*
White	% (n)	--
Black	% (n)	--
Asian	% (n)	--
Hispanic	% (n)	--
Other	% (n)	--
Depressive Symptoms (cont.)	--	*t-statistic*
⋮	⋮	⋮

Missing data:

- All analyses (including the above descriptive information) will utilize complete cases. Additionally, we will not include respondents who responded to the survey's support loss question with "Not applicable (I don't normally receive any support)"

Multiple comparisons:

- We will use a false discovery rate approach to correct for multiple comparisons and limit the familywise error rate to α = .05 among the above significance tests (race, sex, sexual minority, gender minority, suicidal ideation, PHQ-9 score, GAD-7 score). As such, in all places where a significant effect is defined by a *p* value less than .05, this is referring to

the post-correction *p* value (i.e. the *p* value after correction using the false discovery rate method).

6. Any secondary analyses?

- If the results of our chi-square test are significant for variables with > 2 categories (race), we will visualize differences between categories using a contingency table. http://www.sthda.com/english/wiki/chi-square-test-of-independence-in-r#compute-chi-square-test-in-r

7. How many observations will be collected or what will determine the sample size? No need to justify the decision, but be precise about exactly how the number will be determined.

In March 2020, in the first month of the University shutting down in response to the COVID-19 pandemic, researchers invited members of the Stony Brook University community to participate in a survey about their experiences during the pandemic. All active members of the University community, including students, post-docs, faculty, and staff, were invited to participate. We will limit our analysis to undergraduate respondents only. Approximately 1,200 undergraduates responded to the initial survey, all of whom will be included in this analysis.

8. Anything else you would like to pre-register? (e.g., data exclusions, variables collected for exploratory purposes, unusual analyses planned?)

As stated previously, each analysis will only use complete cases. We will not include respondents who responded to the survey's support loss question with "Not applicable (I don't normally receive any support)".