Mental Health Hack Fest 2021
In Memory of Professor Brice Acree

Topic Overview: Mental Health among College Students

The topic of mental health on college campuses has been an increasing concern in recent years. The Center for Collegiate Health's 2020 Annual Report, from colleges and universities across the country,[1] shows several alarming trends. From 2010–2020, there has been a significant increase in the percentage of college students who self-report symptoms of depression, generalized anxiety, and social anxiety. From 2012–2020, there have also been increases in the percentage of college students who have experienced a traumatic event and who have had serious suicidal ideation.[2]

These trends have substantially increased the percentage of college students being referred to and seeking mental health services.[1] On a national survey, the majority of college counseling center directors agree mental health issues on campuses are rising.[3] A majority of directors also believe college students face many more pressures today than in years past. COVID-19 has exacerbated issues, as many college students are facing stressful challenges on top of those typically experienced.

Problem Statement

The United States Census Bureau has fielded the Household Pulse Survey to a national sample of households throughout the COVID-19 pandemic. For this challenge, we are providing you the most recent batch of survey data from the Pulse Survey, which was fielded between March 17 and March 29, 2021. Additionally, we have subsetted the data to only those respondents who are likely to be college students under 30. For the sake of this challenge, assume that the data we are providing you is a representative sample of college students under 30 in the United States.

In this survey, respondents answered questions about their mental health, how COVID-19 has affected them, and other questions about themselves and their household. You have been provided with a CSV file with this data, as well as the codebook with the question and response texts; the codebook allows you identify the substantive meaning of the numeric responses in the data set. A few notes about the data:

- There is some "conditionality" in the data. Some questions were only asked if respondents provided a specific response on a previous question.
- For "select all that apply" questions and items with multiple parts, there is an underscore and number at the end of the variable name in the data set that refers to each response option or statement. For example, Q4_1 refers to the first response option of Q4 (i.e., whether someone identifies as White).
- Responses coded as -99 mean that a respondent did not select that option. Responses coded as -88 mean that a question was not presented to a respondent.

[1] https://ccmh.psu.edu/assets/docs/2020%20CCMH%20Annual%20Report.pdf
[2] It is important to note that there are also some positive trends. For instance, binge-drinking and substance abuse has gone down among college students over the past eight years.
[3] https://www.aucccd.org/assets/documents/Survey/2019-2020%20Annual%20Report%20FINAL%20March-2021.pdf

With this data set and codebook, we would like you to address the following prompts:

1) Investigate patterns in college students receiving mental health services (Q38b) and college students needing mental health services but not being able to receive them (Q38c). You are free to explore any patterns in the data you would like, such as whether these patterns differ in any way from those associated with college students delaying other kinds of healthcare during the Covid pandemic (Q37 and Q38).

2) Investigate other patterns in mental health among college students. This can include levels of worrying, anxiety, depression, or little interest/motivation in doing things (Q32 - Q35). You are free to explore any patterns in the data you would like.

3) Taken together, address these prompts to the best of your ability in the time given. Get creative! What insights do your answers bring to bear on the question of what might help address these mental health trends?

Challenge Tracks:

As a reminder, you should only participate in the challenge for which you and your team registered. For this competition, these challenges represent three different methods of presenting your answers to the prompts above.

Data Visualization Track

You will have **8 hours** to develop graphical or visual representations that address the prompts. You should do your best to make these accessible to the broader public. This means that the visualizations themselves should provide insights, with limited writing or explanation necessary to describe what the visualizations show. Visualizations can be hosted on a website, interactive, designed for social media sharing, videos, slides or PDFs.

Poster Case Track

You will have **8 hours** to develop a creative deliverable that addresses the prompts. This can be in the form of a policy memo, poster, report, or other written representation. You may use tables and data visualizations in the deliverable, but you should also have text that describes the key takeaways and tells a story with the data. Teams that choose this option will present their insights in front of judges and sponsors at the poster session on April 11. However, this presentation will not be assessed formally as part of the competition.

Hackathon Track

You will have **12 hours** to generate insights that address the challenge prompts. You have free rein to determine how you would like to present these insights (website, poster, PowerPoint, report, etc.), but as part of the presentation you must explain what methods you used in your analysis and why these are appropriate. In addition to submitting a final presentation, you will also need to submit the code used to conduct the analysis.

If you have any questions about what is acceptable or whether something falls within the bounds of the Hack Fest competition, please let us know. See next page for judging criteria.

Judging Criteria:

Each project will be evaluated by 3 different judges. Each project will receive an average score from the judges' evaluations. The project with the highest score within each track will win the "best of" prize for that track. Judges may also nominate projects for the other prizes (see Prizes Overview below). On each judging criteria, the judges will score each project from 1 to 10. The criteria for judgement are:

1) *Innovation*: Is this a new take or something completely new? Is there creativity in the approach?
2) *Application*: Is the project usable? Is it well-designed?
3) *Usefulness/Implementation*: Is the project or resource created helpful? Is there a clear understanding of how this resource or product would be used, shared, or implemented? Is there a clear story or message?
4) *Presentation*: How well are the materials of the project presented? Is there a good sense of the project's objective or purpose?
5) *Learning*: Did the project reveal something new, either about the data, skills, or analysis?
6) *Relevance*: Does the final project meet the Track's theme? Is there a sense of depth to the analysis?

Prize Overview:

1. Best Data Visualization Project
2. Best Poster Case Project
3. Best Hackathon Project
4. Best Overall Project
5. OHI/O Award for Creative Innovation
6. Community Thinker Award for Multidisciplinary and Community Mindedness