

Lending a Hand Against Depression and Suicide for High-Risk College Campuses in California

Research Proposal

Team: Lawrence Lai, Julie Lee, Eric Le, Amanda Teschko

Overview

Intended audience

Our intended audience is administrators and faculty members at participating four-year universities in California.

Summary of existing literature

Depression and suicide among college students as well as the associated institutional responses have been studied in depth by many research studies. The unfortunate reality is that depression and suicide remain prevalent in college campuses. A survey conducted by Fur et al.¹ showed that, out of 1,455 respondents, 53% indicated that they had experienced depression, 9% thought about committing suicide and 1% attempted suicide since the beginning college. 17% of respondents who reported experiencing depression and 20% of respondents who reported suicidal ideation indicated that they had sought counseling. The most frequently cited causes of depression were grade problems, loneliness, money problems and relationship problems. The most frequently cited contributing factors to suicidal ideation or behavior were hopelessness, loneliness and helplessness.

In a study on feelings and causes of college student suicides by Bernard et al.², depression, along with loneliness and isolation, was found to be the feeling most associated with suicide attempts. The two most frequently cited causes of suicide attempts were social problems and family problems. According to another study by Ross³, the contributing factors to college student suicides were identity problems, academic competitions, social isolation, place of residence, socio-intellectual factors, drugs, financial pressure, depression, age and gender. Depression was cited as the most frequent precursor to suicide.

Institutional responses to depression and suicide among college students were also subjects of research. According to one of such studies by Haas et al.⁴, many college campuses have suicide prevention programs that tend to be more educational in nature whose objective is to inform students of stress, self-destructive behaviors and suicide. Most of them unfortunately do not

¹ Furr, S. R., Westefeld, J. S., McConnell, G. N., & Jenkins, J. M. (2001). Suicide and depression among college students: A decade later. *Professional Psychology: Research and Practice*, 32(1), 97–100.

² Bernard, M. L., and J. L. Bernard. "Suicide on campus: Response to the problem." *New Directions for Student Services* (1985).

³ Ross, Mathew. "Suicide among college students." *American Journal of Psychiatry* 126.2 (1969): 220-225.

⁴ Haas, Ann Pollinger, Herbert Hendin, and J. John Mann. "Suicide in college students." *American Behavioral Scientist* 46.9 (2003): 1224-1240.

actively and systematically identify and engage with at-risk students prior to suicidal behaviors. While implementing prevention programs, Haas et al. identified several key challenges, including barriers to treatment, stigma regarding psychiatric disorders, reluctance of institutions to actively identify at-risk students to avoid liability in the event of completed suicides, HIPAA regulations and focus on psychosocial stressors rather than psychiatric illnesses by counseling services.

Anticipated impact

College life can often test the mental health limits for many students. Between academic pressures, social expectations, and financial burdens, students can easily find themselves vulnerable to mental health challenges. As incidences of suicide and depression become increasingly prevalent on college campuses, it is important that universities have a solid understanding of the factors contributing to these illnesses and the role they can play in mitigating risks for their students. The problem has been challenging to solve, as social stigmas can limit how forthcoming students are prepared to be about their struggles and universities can be sensitive about reporting incidents on campus for fear of affecting public image or future enrollment.

Through our research we aim to shape a project that brings transparency to the topic by sharing anonymized compiled results while designing for the privacy and discretion both students and universities are likely to seek. By bringing transparency to the topic, we believe universities will be able to gain a clearer awareness of how they are doing in this area compared to other universities and gain valuable insights about how to better support students and minimize harmful outcomes.

Research Question

Primary question

How well are universities in California meeting the needs of students with depression, suicidal ideation or suicide attempts?

Answering this question will not only help poor performing universities recognize that they have a problem, but by pooling the information across universities, the research can help universities glean insights that wouldn't have been evident when analyzing their own information in a silo.

Supporting questions

- What is the prevalence of depression, suicidal ideation and suicide attempts?
- What are the most common drivers of depression, suicidal ideation and suicide attempts?
- What resources do students with depression, suicidal ideation or suicide attempts find most helpful?
- Are students aware of the availability of the campus resources mentioned above? How accessible are these resources?

- What aspects of campus life do students with depression, suicidal ideation or suicide attempts find most harmful?
- How successful are universities in minimizing harmful outcomes for students when incidents of depression, suicidal ideation and suicide attempts occur?
- Do social interactions between students play a role in decreasing the likelihood of depression, suicidal ideation and/or suicide attempts?

Definition of key terms

- Depression: A common and serious medical illness that negatively affects how you feel, the way you think and how you act. Depression causes feelings of sadness and/or a loss of interest in activities you once enjoyed.⁵
- Suicidal ideation: Often called suicidal thoughts or ideas, is a broad term used to describe a range of contemplations, wishes, and preoccupations with death and suicide.⁶
- Suicide attempt: When someone harms themselves with any intent to end their life, but they do not die as a result of their actions⁷
- At-risk students: Students who are of high suicide risk⁸
- Prevalence: Percentage of sample that has a specific condition
- Universities in California: Four-year universities located in the state of California, USA
- Students: Full-time undergraduate students who have already enrolled and been living on-campus at participating four-year universities in California for the fall of 2022
- Faculty: Professors and campus health center staff working on-campus for the fall of 2022

Study Design

Our objective is to develop a foundational understanding of both students' and faculty members' perspectives related to the research questions. With this understanding, we will be able to compare and contrast their responses internally within each university and externally across different universities in California.

The study will look to collect information from two perspectives: students and faculty members using surveying methods. We will only engage students and faculty members who provide signed consent to be included as part of the study. All participants will have the ability to opt out at any point in time during the course of the study. We plan on partnering with campus mental health resources to develop a well-informed survey for both students and faculties.

Understanding students' perspective

⁵ <http://www.psychiatry.org/patients-families/depression/what-is-depression>

⁶ <https://pubmed.ncbi.nlm.nih.gov/33351435/>

⁷ <https://www.cdc.gov/suicide/facts/index.html>

⁸ <https://www.cdc.gov/suicide/factors/index.html>

We will randomly select students to obtain a broad and representative view of the university population for each school. Details on the sampling methods will be discussed in the Sample section.

For selected students, we will distribute an online survey with rating scale and opened ended questions via email that collects information about their personal experiences with the following:

- Depression, suicide ideation and suicide attempts
- Awareness and assessment of resources offered on campus to support students

We anticipate that social stigmas about mental health may limit the transparency in survey responses. As such, we will ensure anonymity to encourage transparent responses.

We also anticipate that the questions in the survey may trigger emotional responses. As such, we will preface the survey with a disclaimer and provide a list of resources that provide support for students.

Understanding faculty members' perspective

We will work with the administration of each university to identify faculty members who can best provide us with accurate and candid information on the topics.

For selected faculty members, we will distribute a different survey that collects information on their assessment of the following:

- Prior incidents of depression, suicide ideation and suicide attempts by students
- Resources available to students
- University's position in meeting student needs

We anticipate that universities and their faculty members may be reluctant to take part in the study. To incentivize participation and transparency, we will promise discretion in the reporting of results. If a university cooperates with the study, we will provide it access to an anonymized version of our findings. These results can help the university understand how well it is dealing with these topics as compared to its peers. It can also offer the university insights that might not be apparent if only looking at its own information in a silo.

Timing of survey distribution and collection

Because the objective for this study is to understand the nature of the problem at a point in time, we will distribute and collect surveys once on predetermined dates. We will align the distribution and collection dates with each school's academic calendar to maximize engagement from our respondents (e.g. avoid breaks between academic periods). We plan on distributing our surveys immediately after finals week so that students and faculty members would have time to reflect on their responses. This would maximize the number of responses as opposed to asking students during finals.

Future considerations

A future study to understand how well any changes were implemented could be a worthwhile endeavor.

Data

We will leverage data from multiple sources to help us answer our research questions. We plan on deriving the majority of our insights from the survey responses and supplementing them with publicly available data.

Primary data

Our primary data will come from survey responses from students and universities, as well as self-assessments done by each university reporting on how well equipped the university believes it is to minimize and support incidents of suicide and depression on campus.

For students, survey questions may include but are not limited to, the following:

- Do you suffer from feelings of worthlessness, helplessness, or pessimism for days at a time?
- Do you frequently feel tired or lack energy?
- Have you stopped meeting with family or friends?
- What do you think were the reasons behind the depression, suicidal ideation and/or suicide attempts?
- Are you aware of the resources offered by the university to provide support for individuals with depression, suicide ideation and/or suicide attempts?
- Have you sought professional support offered by the university?
- If you answered “No” to the previous question, what resources do you typically use for coping? (e.g. Lyra, family/friends, etc.)
- How useful are the school’s resources? What aspects of these resources do you find helpful and not helpful?
- What recommendations do you have for the university to better address the needs of students with depression, suicidal ideation and/or suicide attempts?

We will also collect general student demographic information, such as age, gender, family household income level, access to medical care, etc. to help us better understand our research question across different dimensions.

For faculty members, survey questions may include, but not limited to, the following:

- What are the resources offered by the university for students with depression, suicidal ideation and/or suicide attempts?
- How is your experience working with the administration and your colleagues while providing these resources?
- How is your experience working with students while providing these resources?
- What are the reasons for depression, suicidal ideation and/or suicide attempts among students?

- How would you rate the students' awareness of these resources?
- How would you rate the students' willingness to seek help?
- How would you rate the helpfulness of these resources to students?
- What aspects of these resources do you think are helpful and not helpful to students and could be improved?

Secondary data

In addition to survey data, we may use public information pertaining to enrollment, geography, academic performance, and demographics for each university to understand if there are any patterns in our results that are driven by these attributes.

We will review news articles about incidents of depressions, suicide ideation and/or suicide attempts at participating universities.

We will also use data from public sources reporting on the prevalence of depression and suicide in the state and national population, to compare how our samples at each university might compare to more generalized populations.

Sample

To better understand how campus mental health resources may benefit students, all participating universities in California will be included in the study.

Rather than stratifying survey participants by class standing (e.g. freshman, sophomore, junior, senior) or major (e.g. engineering, arts, business), all currently enrolled students living on campus will be offered participation in the study which sets the population as the sampling frame. All faculty members working on campus will be included in the study.

Participants returning surveys with blank responses will be reached out for survey completion. Any incomplete surveys will be excluded from the study.

Variables and/or Intervention

Survey responses will be used to calculate numeric scores to enable objective comparisons across campuses.

- Student - aware: a score quantifying student awareness of campus mental health resources
- Student - effective: a score quantifying student perceived effectiveness of campus mental health resources
- Faculty - effective: a score quantifying faculty perceived effectiveness of campus mental health resources
- Student - external: a score quantifying student perceived effectiveness of external mental health resources

- Student - need: a score estimating student perceived need for mental health resources

Scores representing students' mental health will not be calculated as they are not necessary to answer the primary research question, which focuses on understanding how universities support students rather than the mental health status of students. Such scores would not be clinically meaningful and may provide harm to students.

- The number of at-risk students per term will be calculated by the student survey responses.
- The campus resource usage will be calculated by dividing the number of unique students visiting the campus mental health center per term by the total number of on campus students during the same term.

The number of at-risk students and the campus resource usage can inform on the need for additional mental health resources or more awareness of the existing resources. Universities that choose to implement changes can also use the number of at-risk students to calculate impact of resource changes by calculating the difference in number between terms.

School information, such as funding sources (public or private status), system affiliation (UC, CSU, neither), and student body population, will be used for defining grouped comparisons of the five previously mentioned calculated scores.

Student demographic factors, including age, class standing, major, gender, financial aid status, and hometown location, will be assessed as they likely impact access to external mental health resources.

Statistical Methods

For each university, scores will be calculated based on the survey results. Grouped analyses will be conducted to identify if differences between the groups exist:

1. Funding source: Public or private
2. System affiliation: University of California (UC), California State University (CSU), or neither
3. School entrance method: transfer or entrance as freshman

T-tests or Wilcoxon rank sum tests will be used to conduct hypothesis testing by comparing the means of these scores across different groups. Our null hypothesis would be that the difference between the means across the groups equals to zero. In the event that our test results are significant, we would reject our null hypothesis. Individual scores can also be compared to grouped or total averages to inform universities about their current standing compared to other campuses.

Potential Risks

1) *Scientific validity*

- *Sample Size*
 - It is possible that an insufficient number of students living on campus and faculty members opt into the study for us to have a statistically meaningful sample. The number of students and faculties opting-in into the study are limited by those only willing to participate. Opting-in students and faculties from non four year universities into the study will increase the likelihood the sample will be large enough but goes beyond the scope of the study.
- *Data Availability*
 - The number of universities participating in the study is another factor beyond our control. Universities have the right to opt-in the study voluntarily, therefore data might not be available or contain anomalies. Such risk can be minimized if all four year universities in California are willing to participate but the probability of such an occurrence is highly unlikely.
- *External Variables*
 - Not all signs of depression come from school related activities. Other external factors might include personal, home, family, work, relationships. Overcoming such risk, would require the study to expand outside the scope of the university and examine the student's background and personal life.

2) *Stakeholder expectations*

- *Timing & Deliverables*
 - Universities may have different expectations when it comes to timing and deliverables which may cause limitations on how data is gathered and if it is representative enough. Such risk is beyond our control as different universities are entitled to their own thoughts and opinions.

3) *Law and ethics including data security*

- *Cognition*
 - Students & faculty may have mixed feelings about the study or respond indifferently to the survey questions. Although we plan to mitigate this issue as much as possible, we cannot control how students & faculty feel. Students and faculty have their own set of emotions and may interpret aspects of the study differently.
- *Privacy*
 - Students and faculty will need to opt in to a study that will collect anonymized data. However, there is still a risk of de-anonymization. To reduce privacy risk, data access should be restricted to only the surveyor but such limitation is sometimes beyond our control.

Deliverables

In order to provide the best quality work, we plan on providing deliverables based on an estimated timeline of each phase of the study.

Timeline



Phase 1: Data Preparation (~ 1 Month)

This phase is dedicated to identifying information related to the study that could help understand our audiences, participants and research questions.

- Gain initial understanding of both students' and faculty members' perspectives at participating universities.
- Review available resources provided by participating universities for students with depression and suicidal ideation.
- Gather public information pertaining to enrollment, geography, academic performance, and demographics for each university.
- Review news articles about incidents of depressions, suicide ideation and/or suicide attempts at participating universities.
- Analyze variables like population size, margin of error, confidence level and standard deviation to identify appropriate sample size for participating universities.

Phase 2: Data Collection / Data Cleaning (~2 Months)

This phase is dedicated to creating strategies for distributing, collecting and aggregating the appropriate data.

- Identify quantitative (numeric) data or qualitative (descriptive) data
- Construct and deploy well-informed survey questions to students living on campus and faculty members.
- Removing major errors, duplicates, and outliers.
- Removing unwanted data (i.e null, spam)
- Organize data in a clear, structured and defined way
- Perform exploratory analysis

Phase 3: Data Analysis (~ 1 Month)

This phase is dedicated to performing hypothesis testing and fit-gap analysis .

- Perform descriptive analysis to identify trends that already happened from other universities.
- Perform diagnostic analytics to focus on understanding why students and faculty feel a particular way.
- A fit-gap analysis on both perspectives to identify areas that are out of sync.
- Apply predictive analysis to identify future trends based on historical data about students.
- Apply prescriptive analysis to make recommendations for the future.

Phase 4: Modeling (~1 Month)

This phase is dedicated to completing deliverables, including reports and recommendations.

- Each participating university will receive an individualized detailed analysis of the study conduct on their campus.
- Each participating university will receive a visualization displaying all participating four year universities and their percentages of students with depression.
- A general list of recommendations for next steps will be provided for all participating universities.