

The Data Mural Project

Team Members: Emily Lopez, Gloria
Kunder, Omar Ramos

Meet The Team



Emily Lopez
she/her
Project Lead



Gloria Kunder
she/her
Communications,
Ethnographic Research &
Mural Design



Omar Ramos
he/him
Data Analyst, Mural Design,
& Mural Group Facilitator

Agenda

1. Project Motivation and Roots
2. Project Background and Overview
3. Bringing the team together
4. Data, disability and student life
5. Summary of current project work and future plans

Project Motivation and Roots



First lecture of DATA 104 in the Fall 2019 semester, from the Data 104: Human Contexts and Ethics of Data website

- Asking questions regarding the intersection of mental health, patient data, and current data science tools
- Ethical implications of how patients are represented in data
- Honing in to see how this may look like at a university level within the disabled students' community

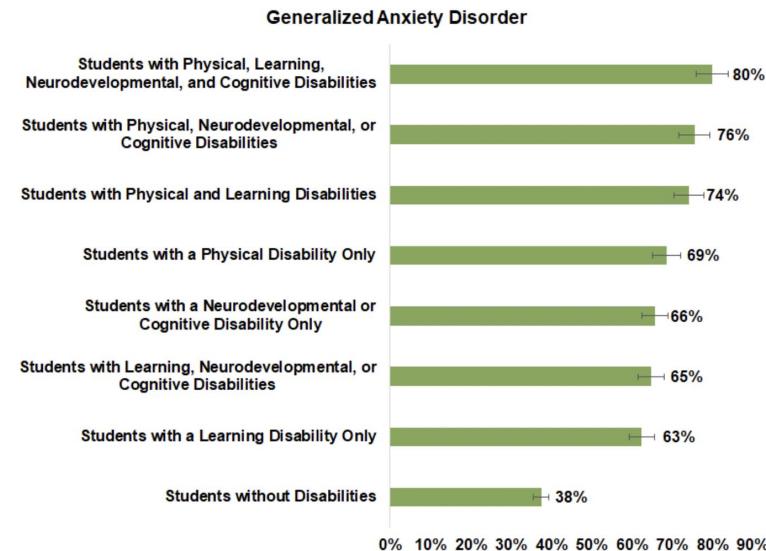
Project Background and Overview

We compiled data from a May 2020 survey that focused on Undergraduate and Graduate students' mental health during the COVID-19 pandemic, focusing specifically on questions regarding major depressive disorder and generalized anxiety disorder.

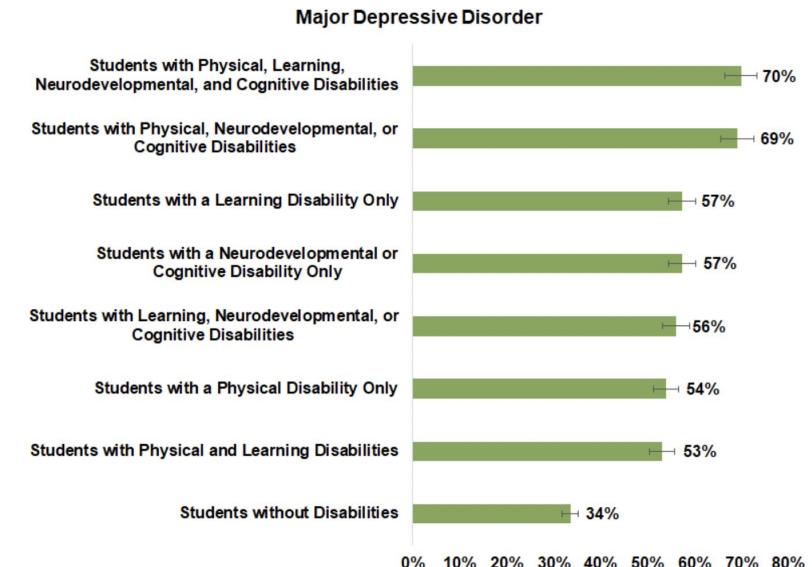
We also included an excerpt detailing the instances of responses by students with disabilities, and their disability type.

Undergraduate and Graduate Students' Mental Health During the COVID-19 Pandemic

Undergraduates Who Screened Positive for Generalized Anxiety Disorder, by Disability



Undergraduates Who Screened Positive for Major Depressive Disorder, by Disability



Mental Health Questionnaires

Patient Health Questionnaire-2 (PHQ-2) to screen for depression

Over the <u>last 2 weeks</u> , how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	<input type="radio"/> 0	<input type="radio"/> +1	<input type="radio"/> +2	<input type="radio"/> +3
2. Feeling down, depressed or hopeless	<input type="radio"/> 0	<input type="radio"/> +1	<input type="radio"/> +2	<input type="radio"/> +3

Generalized Anxiety Disorder 2-item (GAD-2) to screen for anxiety

Over the <u>last 2 weeks</u> , how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	<input type="radio"/> 0	<input type="radio"/> +1	<input type="radio"/> +2	<input type="radio"/> +3
2. Not being able to stop or control worrying	<input type="radio"/> 0	<input type="radio"/> +1	<input type="radio"/> +2	<input type="radio"/> +3

Source: Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. Medical Care. 2003;41:1284-92.

The GAD-2 was based on the GAD-7, which was developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc.

Classifying Students with Disabilities

Students with Disabilities

In the SERU COVID-19 survey, we asked undergraduate students whether they had a 1) physical disability, 2) learning disability (e.g., dyslexia or a speech disorder), or 3) neurodevelopmental or cognitive disability (e.g., autism or attention deficit disorder). Students could respond either “yes” or “no” to either of those options, including a combination of those options. We report the response rates by students’ self-identified disability in Table 1.

Table 1

Students’ Response Rates by Disability Type

	<i>n</i>	%
Students with physical disabilities only	249	0.8
Students with learning disabilities only	364	1.2
Students with neurodevelopmental or cognitive disabilities only	897	3.0
Students with physical disabilities and neurodevelopmental or cognitive disabilities	78	0.3
Students with physical disabilities and learning disabilities	32	0.1
Students with learning disabilities and neurodevelopmental or cognitive disabilities	138	0.5
Students with physical disabilities, learning disabilities, and neurodevelopmental or cognitive disabilities	30	0.1
Students without disabilities	28,311	94.1

Project Summary

Identify the problems in current datasets/surveys and work as a community to address them

Phase 1:

- Understand students' sentiment regarding their representation in university surveys and collected data

Phase 2:

- Provide them with the tools to share their thoughts on how to improve these surveys and datasets



The power of ubiquitous data
in bringing people together

Public art as a means of
conveying stories, needs, and
concerns

Project Implementation

O1

Generate & Collect
visualizations

Use SERU and University
of California
Undergraduate
Experience Survey data
and visuals

O2

Hold Focus
Groups

Have groups of students
engage with the data
visualizations

O3

Hold Co-Creation
Sessions

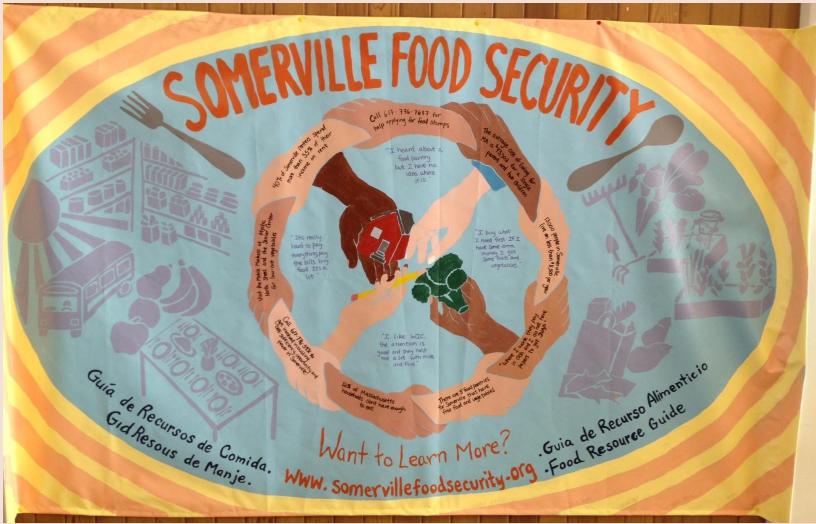
Students consider how
they want to
communicate themselves
& perspectives through
art

O4

Create an Accessible,
Dynamic Data Mural

Use designs from
co-creation sessions to
share a community
message through an
accessible, dynamic mural

Example of Data Murals



Data mural created by the Somerville Food Security Coalition (November 2013)

Highlights data on food insecurity issues and the helpful resources that the Somerville Food Security Coalition has available to community members



Data mural created by students at PlugMinas in Belo Horizonte, Brazil (March 2014)

Portrays the process of transformation towards personal growth that students undergo at their school.

Working with UC Berkeley's Disability Lab



Emily Lopez
she/her
Project Lead



Gloria Kunder
she/her
Communications,
Ethnographic Research &
Mural Design

Omar Ramos
he/him
Data Analyst, Mural
Design, & Mural Group
Facilitator

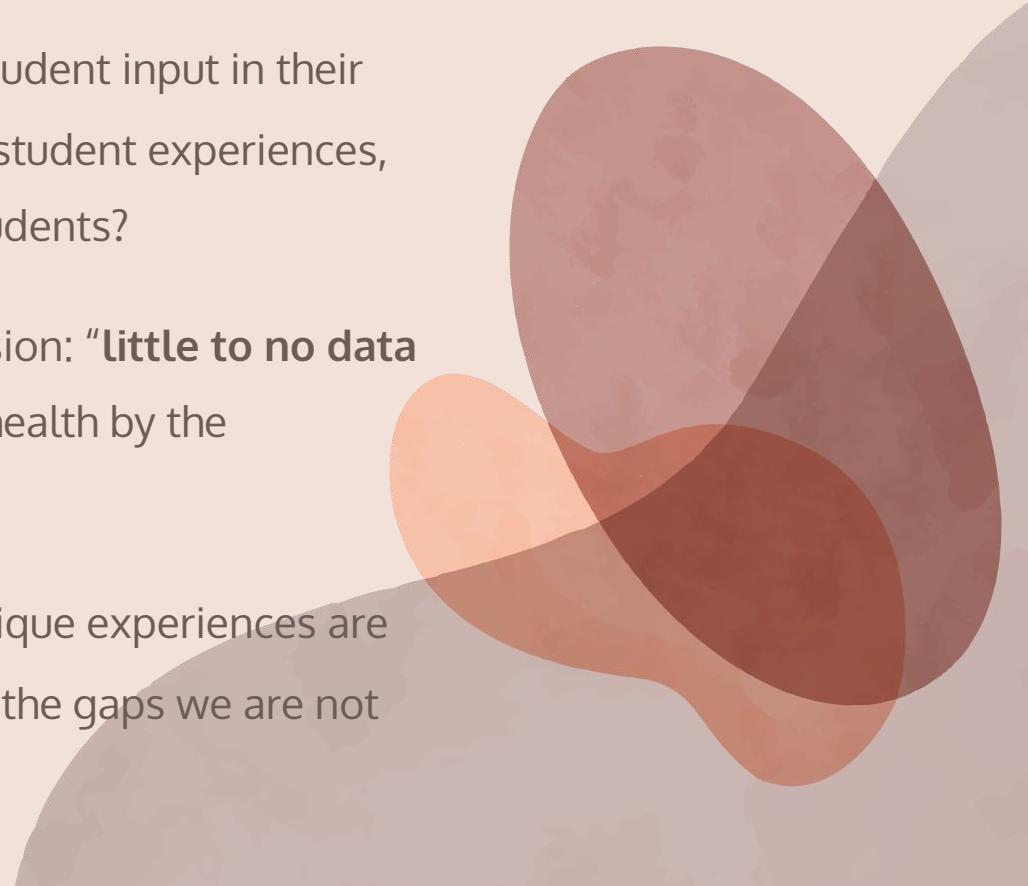


Data, Disability & Student Life

- **The problem:** University surveys lack student input in their creation, so do they effectively capture student experiences, more so the experiences of disabled students?

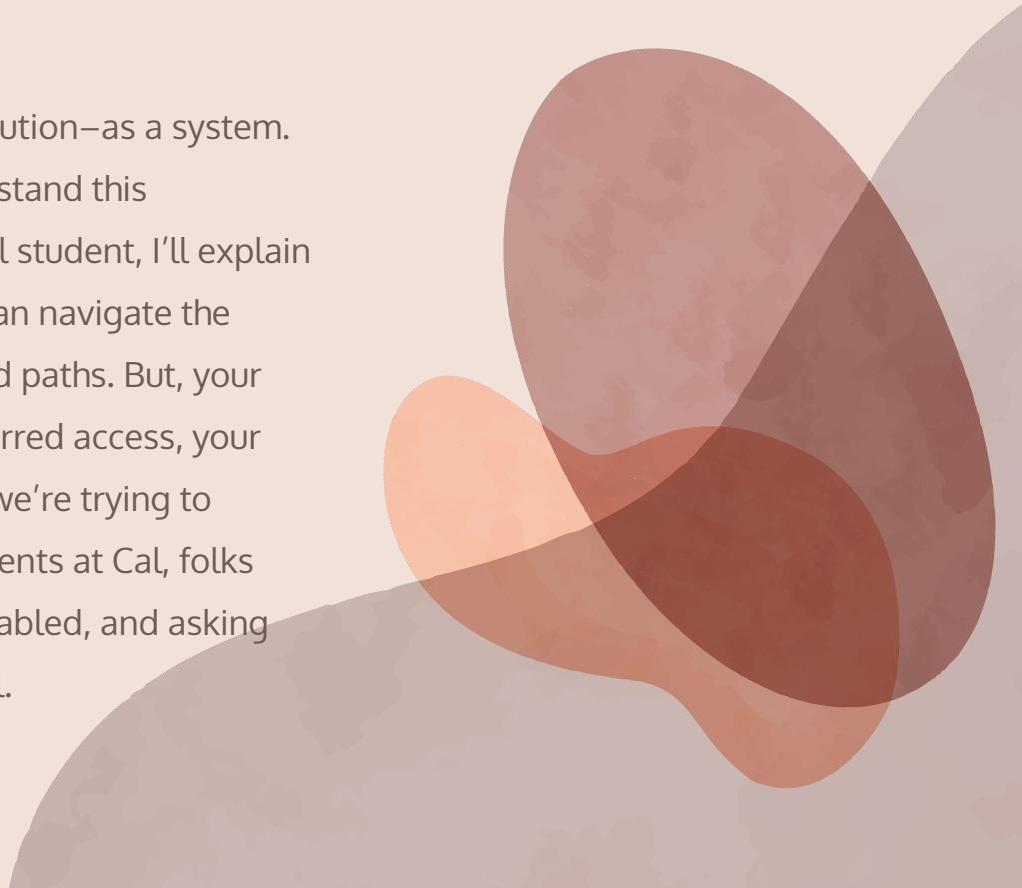
From the ASUC Mental Health Commission: “**little to no data** is being collected on students’ mental health by the university”

- **Questions that arise:** What types of unique experiences are we not capturing in this data? What are the gaps we are not seeing?



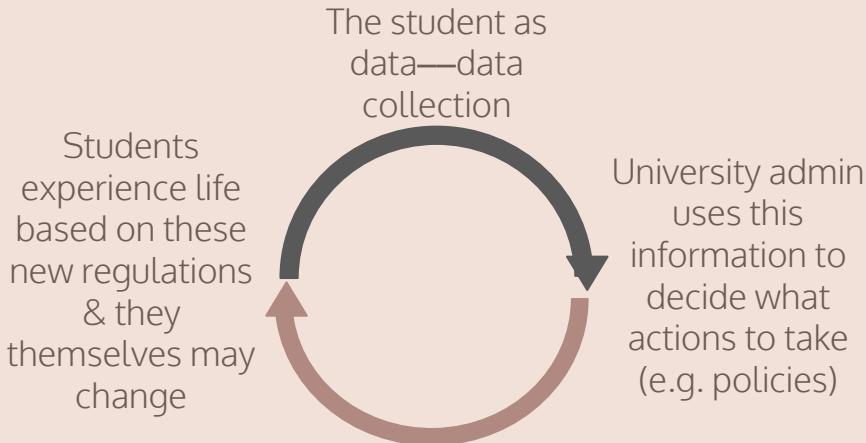
Data, Disability & Student Life

It's important to recognize UC Berkeley as an institution—as a system. Disability isn't a lack of ability, and to better understand this relationship between the system and the individual student, I'll explain it like this: Imagine you're a powerchair user. You can navigate the terrain well if there are curb cuts, ramps, and paved paths. But, your class is only accessible by stairs. You have been barred access, your ability to navigate has been disabled; this is what we're trying to assess with our project. We're reaching out to students at Cal, folks who might not even consider themselves to be disabled, and asking them to share their experiences of dis-ability at Cal.

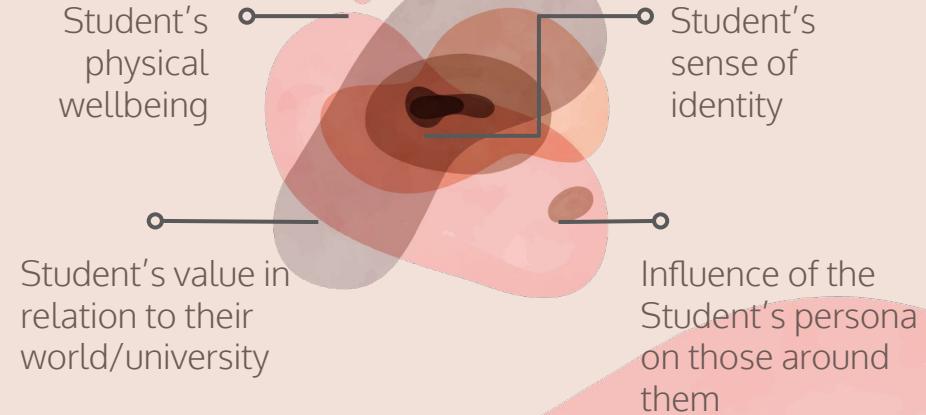


Representations of students in data are not simply the individuals as data, these data representations also ultimately have an impact on the students (e.g. how university administrators take action); a feedback loop emerges.

The Feedback Loop Example:

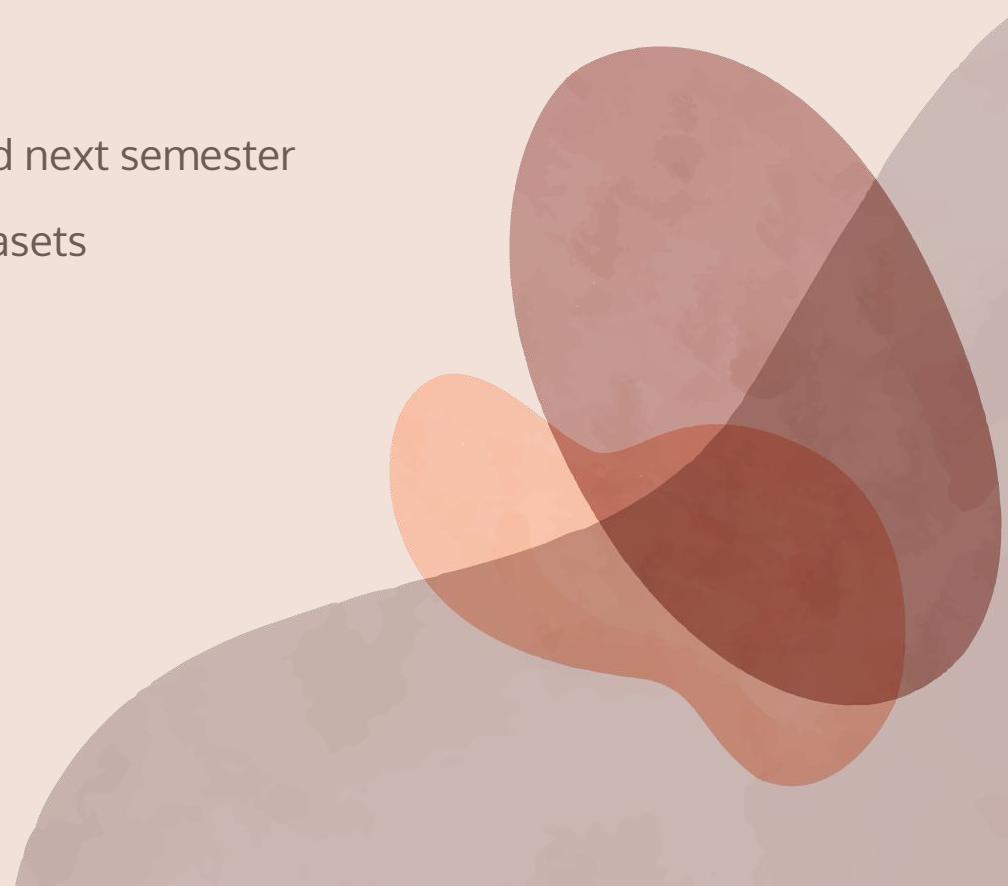


What's at Stake for the Student:



Summary of Current Project Work & Future Plans

- IRB approval
- Creating survey that will be released next semester
- Downloading and reformatting datasets



The Data Mural Project

[launch binder](#)

Project Contributors:

- **Project Lead:** Emily Lopez
- **Communications, Ethnographic Research & Mural Design:** Gloria Kunder
- **Data Analyst, Mural Design, & Mural Group Facilitator:** Omar Ramos

From May to June 2020, a survey conducted by the Student Experience in the Research University (SERU) Consortium gauged the climate of students' lives and health during the pandemic. The study was conducted across nine research universities and gave suggestions for the next steps that administrators should take in response to the survey's results. Their research showed that students with disabilities have higher rates of major depressive disorder (between 53% and 70%) and generalized anxiety disorder (between 63% and 80%) compared to students without disabilities (34% and 38% respectively).

The purpose of this project is to empower students with disabilities to reassess the data from the SERU Consortium survey, reevaluate what questions these surveys should ask to accurately represent the disabled student community, and inform the wider UC Berkeley community of their circumstances. Fundamentally, we are interested in how individuals are represented in datasets and if sensitive data on mental health is accurately representing the individuals who are responding to the surveys. Our project aims to highlight how we should bring the subjects of university surveys to the frontlines of data collection and analysis. We believe that this approach may help create datasets that better capture the individual's identity and mental self, which in turn allows for research that better serves the community.

Directory Structure

This repo contains a few subfolders which contain the elements of this project.

Folder	Description
<code>data</code>	data from the University of California Undergraduate Experience Survey (UCUES) Data Tables, 2020
<code>images</code>	image files used in the Jupyter Notebooks
<code>notebooks</code>	Jupyter Notebook files
<code>output</code>	output data

Sources

Soria, K. M., Horgos, B., Chirikov, I., & Jones-White, D. (2020). The experiences of undergraduate students with physical, learning, neurodevelopmental, and cognitive disabilities during the COVID-19 pandemic. SERU

[Publish your first package](#)

Contributors 2

 **emilyslopez** Emily Lopez

 **oaramos**

Languages

- **Jupyter Notebook** 100.0%

Data Mural Survey

Thank you for taking this survey! The UC Berkeley Disability Lab's Data Mural Team is a group of disabled and non-disabled members. We've created this survey to foster a better understanding of what the disability experience is like for students at Cal and to help envision what more inclusive university data collection methods may look like.

If Google Forms is not accessible to you, please feel free to submit an edited version of the following document including your responses to datamural@protonmail.com:
Link a transcribed version of this survey

You may also print out the survey, fill it out by hand, and submit a scan of it to our email. For the printable version, follow this link:
Link a printable version of this survey

If this survey is not accessible to you, please contact datamural@protonmail.com

 emilysarahi@berkeley.edu (not shared) 

Name:

Your answer

Are you a current student at UC Berkeley?

Yes

No

Other:

Do you identify as a disabled person? If so, please feel free to share your disability pronouns? (i.e. identity first (disabled person), chair user, service dog handler, spoonie, cyborg, neurodivergent, autistic, T1D, crip)

**This question is optional, but whatever information you provide will be very helpful.

Your answer

If you don't identify as having a disability, do you have a chronic illness or consider yourself neurodiverse?

**This question is optional, but whatever information you provide will be very helpful.

Your answer

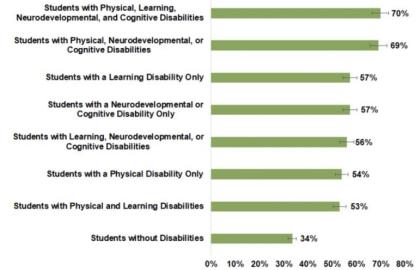
Analyzing Student Data

Please refer to the 2020 SERU Consortium survey report for these questions. We will refer to the following survey results and information, but you may find the full survey report here:
<https://escholarship.org/uc/item/8gd1v4mt>

Survey Results

Undergraduates Who Screened Positive for Major Depressive Disorder, by Disability

Major Depressive Disorder



Undergraduates Who Screened Positive for Generalized Anxiety Disorder, by Disability

Generalized Anxiety Disorder



Did you participate in the 2020 SERU Consortium survey or the 2020 University of California Undergraduate Experience Survey (UCUES)?

Yes

No

Why or why not did you participate in the 2020 SERU Consortium survey or the 2020 University of California Undergraduate Experience Survey (UCUES)?

Your answer

Do you find the data presented easy to engage with or understand?

Really Easy

Somewhat Easy

Moderate

Somewhat Difficult

Very Difficult

Can you relate to the results of the university surveys?

Almost Always

Often

Sometimes

Seldom

Not At All

Do you feel represented in the data?

Almost Always

Often

Sometimes

Seldom

Summary of Current Project Work & Future Plans

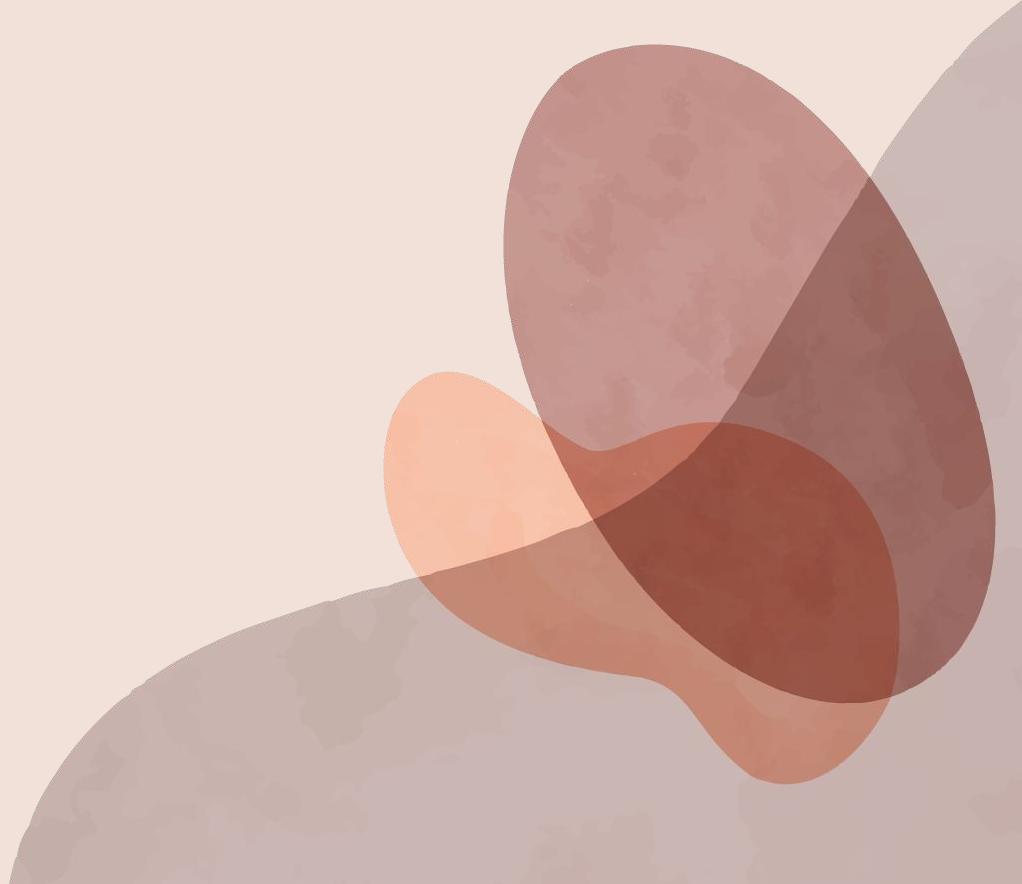
- Preparing for next steps:
 - Data visualizations
 - Focus groups questions and outline
 - Co-creation sessions outline
- Future Ideas:
 - Augmented reality idea for the mural
 - Creating a website for the mural
 - Holding future art + disability creation sessions



Reach Out!

Emily: emilysarahi@berkeley.edu

Omar: oaramos@berkeley.edu



THANK YOU

CREDITS: This presentation template was created by [Slidesgo](#), including icons by [Flaticon](#), infographics & images by [Freepik](#).