



CAL POLY
Student Affairs

Cal Poly Student Affairs Student Employee Survey Project

Our Team



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Overview

- 1. Introductions**
- 2. Survey Process**
- 3. Survey Results**
- 4. Conclusion**

Statistics 421 - Fall 2022



Statistics 421 - Fall 2022

**statistics
communications
business
political science
economics
industrial engineer**

**child development
psychology**

What is Statistics 421?

Survey Sampling and Methodology

Unique Combination of 3 Components:

- 1) Survey Sampling Course Content
- 2) Two Separate Team Presentations
 - a) Survey methods presentation
 - b) Survey sampling presentation
- 3) Client-based Survey Research Project

Who are we working with: **Cal Poly Division of Student Affairs**

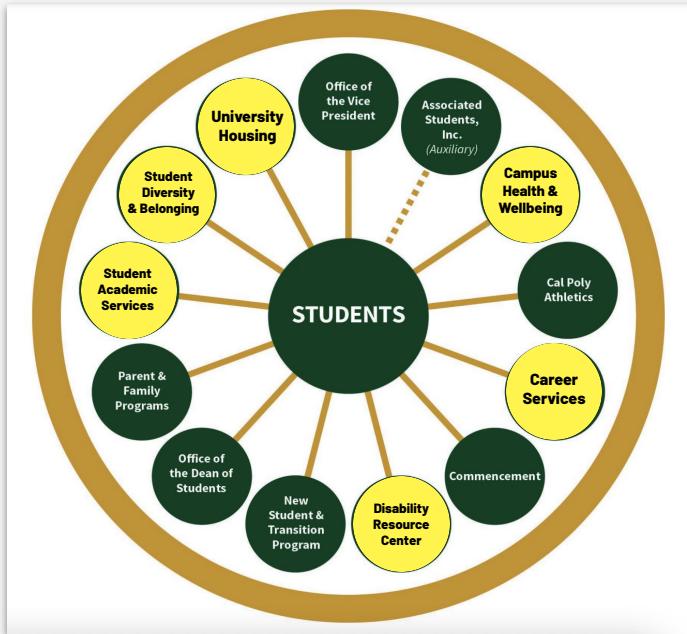


Dr. Kevin Grant
(Director)



Andres Hernandez
(Assessment & Research Analyst)

Cal Poly Student Affairs Survey



Population of Interest

- Cal Poly **undergraduate students** employed under Cal Poly Student Affairs

Cal Poly Student Affairs Survey

Mission/Purpose

- Gain an **understanding** of the **experience** of **student employees**
- How **their experience** can be **improved**

Cal Poly Student Affairs Survey

Key Themes:

- Background Information
- Effectiveness of Onboarding Processes
- Work Environment/Modality
- Career Goals & Services

Background Information

employment experience

information
paycheck
previous job
cal department
motivation
demographics
area
position
skills
learn-by
functions
poly general

Effectiveness of Onboarding Process



need orientation on-the
specialized position department
online shadowing job

Work Environment/Modality

levels
value opportunity
tools give
adequacy new
description day-to
feedback workspace tasks
staffing adequate
day perceived
resources ideas physical
compared job role
receive fulfillment

Career Goals & Services

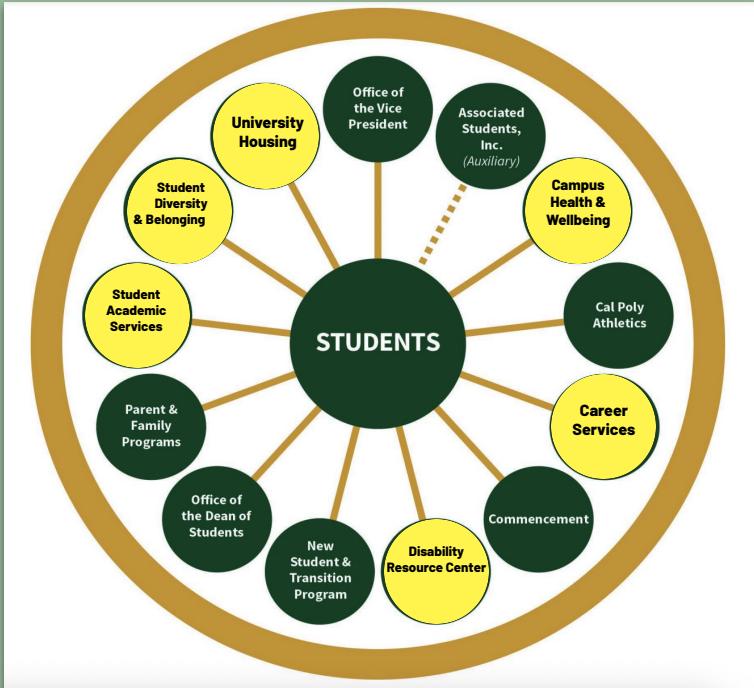
resume
success
use
connection
jobs
search
development
impact

skills
campus
translating
position
skill
life
model
job
find
preparedness

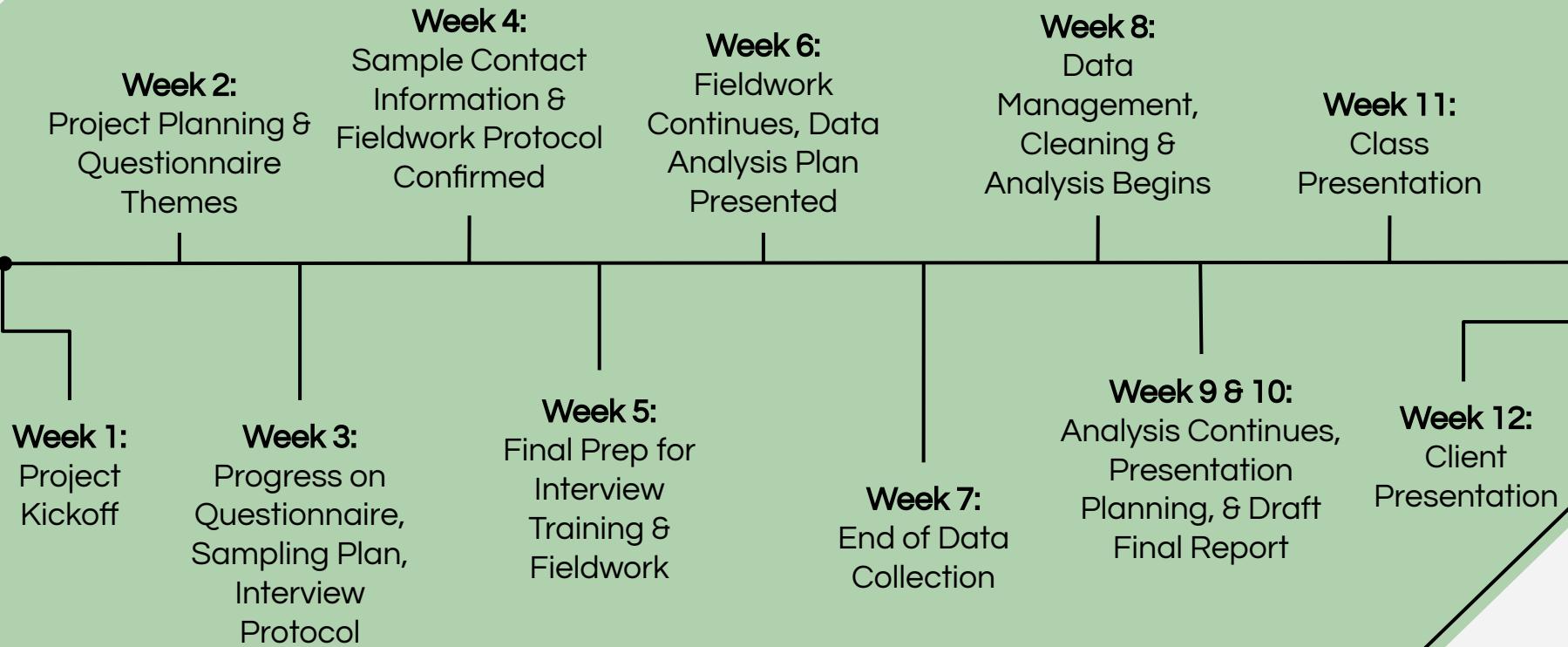
Student Affairs Assessment & Research

Departments Sampled:

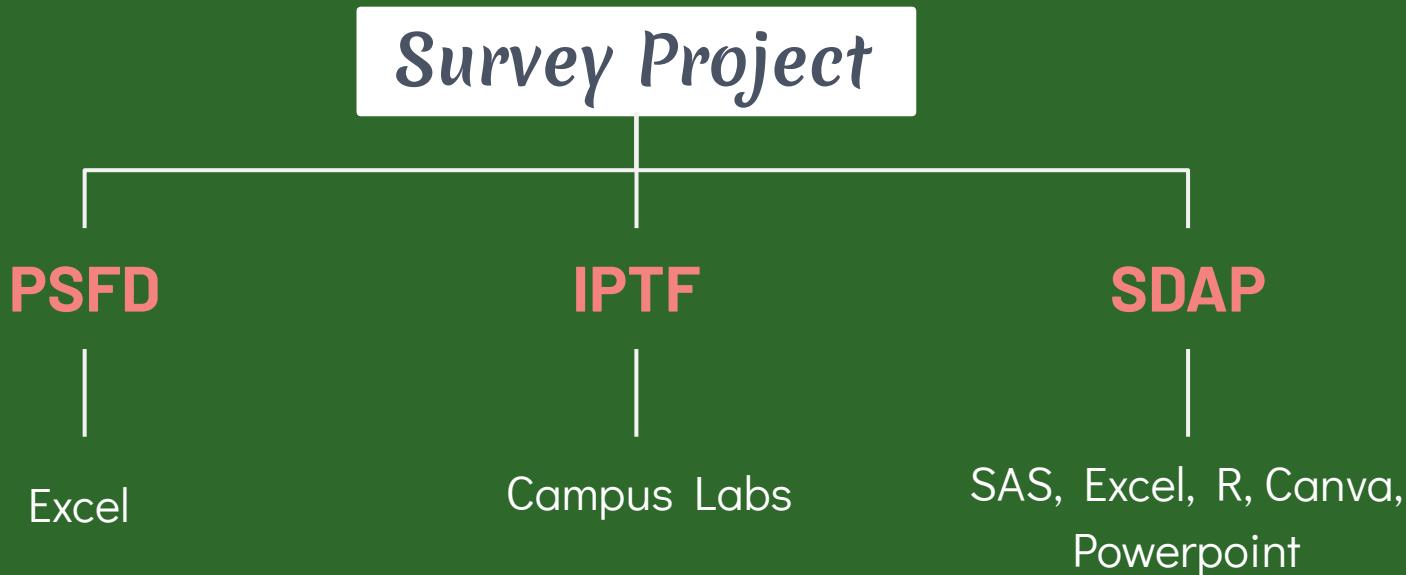
- University Housing
- Student Diversity and Belonging
- Career Services
- DRC
- Campus Health and Wellbeing
- Student Academic Services



PROJECT TIMELINE



SURVEY PROCESS



PSFD TEAM

Responsibilities

P: Planning

S: Sampling

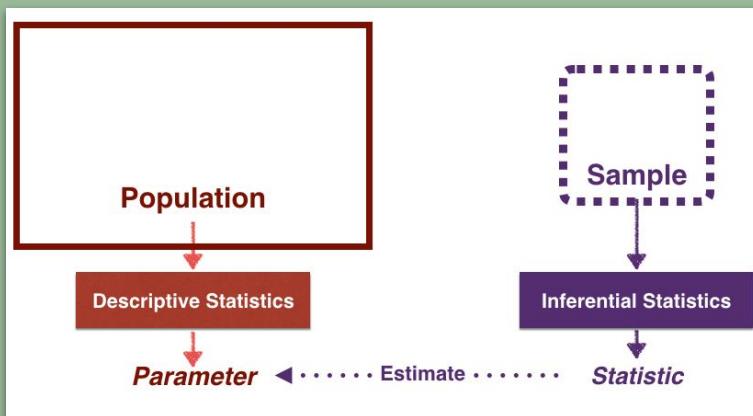
F: Fieldwork Follow-up

D: Documentation



Population Parameter

A population parameter is **a number that describes a whole population**

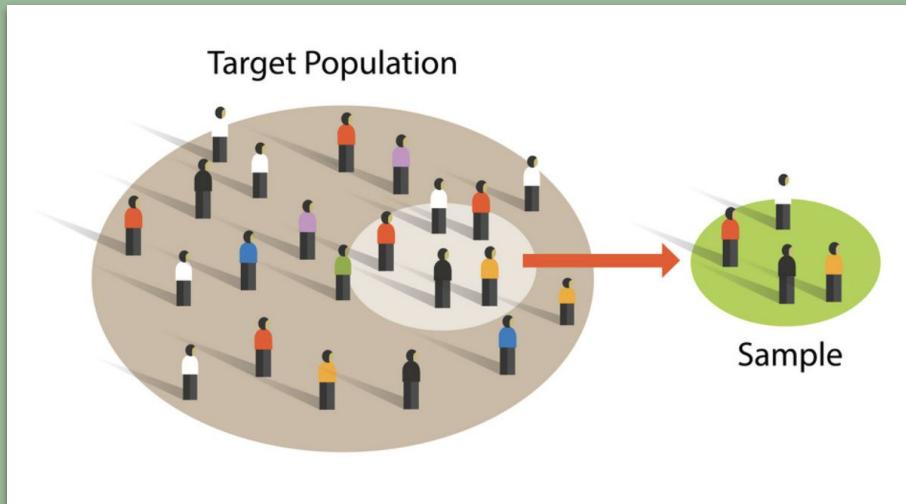


In Our Case

Undergraduate Cal Poly students
who are employed within Student
Affairs *

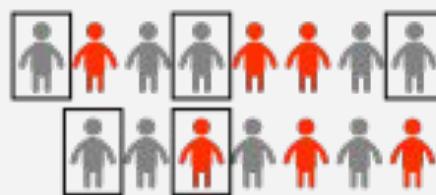
What is Sampling?

“A process in statistical analysis where researchers take a predetermined number of observations from a larger population”

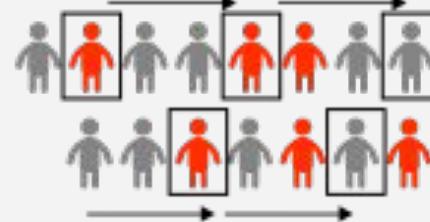


Sample Methods in STAT 421

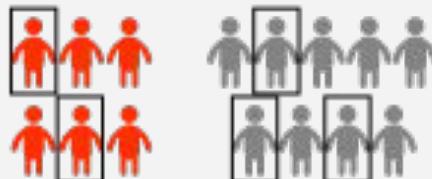
Simple random sample



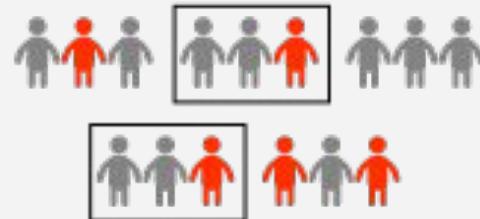
Systematic sample



Stratified sample

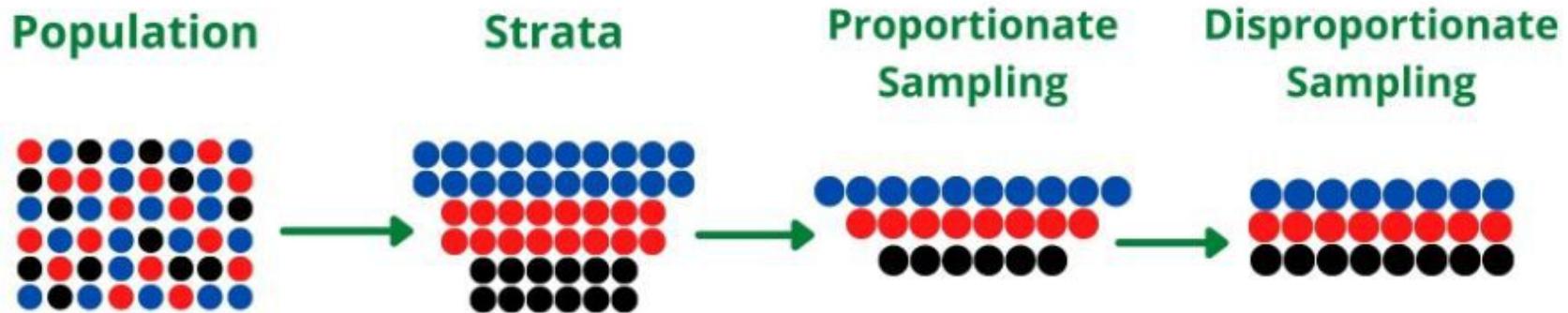


Cluster sample



Sampling Method Used:

Disproportional
Stratified Sampling



Department	Sample Size (n)	Population Size (N)	Proportion Sampled (n/N)
Campus Health & Wellbeing	15	15	100%
Career Services	15	20	75%
Disability Resource Center (DRC)	21	66	31.8 %
Student Academic Services	5	5	100%
Student Diversity & Belonging	19	24	79.2 %
University Housing	43	127	33.9%
Total	118	257	45.91%

Sampling Information

257

Sampling frame

118

Final Sample

33

Respondents

Cooperation Rate

$$= \frac{\text{Respondents}}{\text{Respondents} + \text{Refusals}}$$

$$= \frac{33}{33+8}$$

$$= \frac{33}{41}$$

$$= 0.80487$$

Response Rate

$$= \frac{\text{Respondents}}{\text{In Scope}}$$

**In Scope includes: 8 Refusals, 72 Non Contacts, and 33 Respondents*

$$= \frac{33}{33 + 8 + 72}$$

$$= \frac{33}{113}$$

$$= 0.2920353$$

About the Sampling Frame

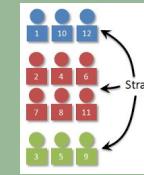
The frame was not “clean”, which led to further **caution** when interviewing a respondent



Excel

Sampling Method

Stratified disproportionate allocation, with appropriate weighting



Key Observations

Low Response Rate

Unfortunately after the data collection period, our response rate was just 29.2 %



Potential Feedback

It could be beneficial to select a **larger sample frame**, as email response in Poly students was **low**



IPTF TEAM

Responsibilities

I: Instrument Design

P: Pretesting

T: Training

F: Fieldwork



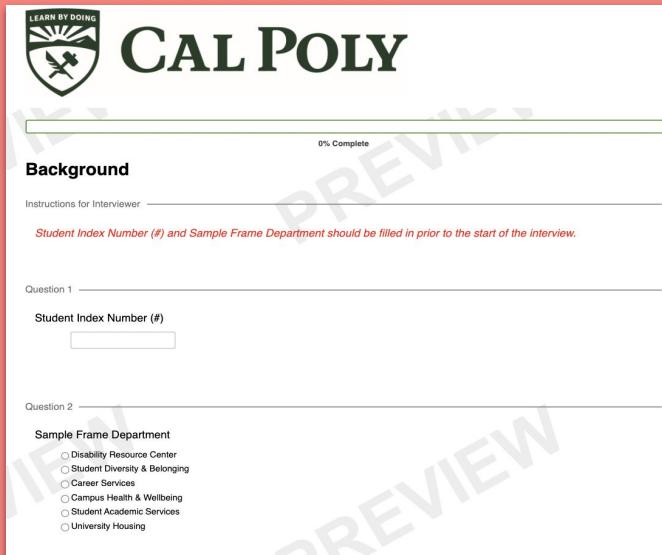
Survey Instrument

Question Formulation Process

Questions formed off of key themes

Software

Campus Labs



The screenshot shows a survey interview guide interface. At the top left is the CAL POLY logo with the tagline "LEARN BY DOING". To the right is the word "CAL POLY" in large, bold, sans-serif letters. A progress bar at the top indicates "0% Complete". Below the header, there's a section titled "Background" with "Instructions for Interviewer" and a note: "Student Index Number (#) and Sample Frame Department should be filled in prior to the start of the interview." The main area contains two questions: "Question 1" and "Question 2", each with a text input field. Under "Question 1", there is a placeholder "Student Index Number (#)" with a small input box below it. Under "Question 2", there is a placeholder "Sample Frame Department" followed by a list of six options, each preceded by a radio button:

- Disability Resource Center
- Student Diversity & Belonging
- Career Services
- Campus Health & Wellbeing
- Student Academic Services
- University Housing

Survey Interview Guide

Reference for participants

Pretesting



- Why do we pretest?
- What was our pretesting plan?
- What did we gain from pretesting?

Participant Outreach Via Email

- 1) Initial email from Dr. Kevin Grant
- 2) Initial email from Stat 421 student
- 3) First follow up email from Stat 421 student
- 4) Follow up email from Dr. Kevin Grant
- 5) Final email from Stat 421 student

Instrument Design

Very important to be extremely **clear** about definitions and wording



Training

Ran **smoothly**, as the **script** simplified possible issues



Pretesting

Had a **difficult time** getting enough people for **pretesting** to be useful



Key Observations

Fieldwork

Thought **more time** and help from **supervisors** could have improved **response rate**



SDAP TEAM

Responsibilities

S: Statistical Analysis Planning

D: Data Management

A: Analysis

P: Presentation

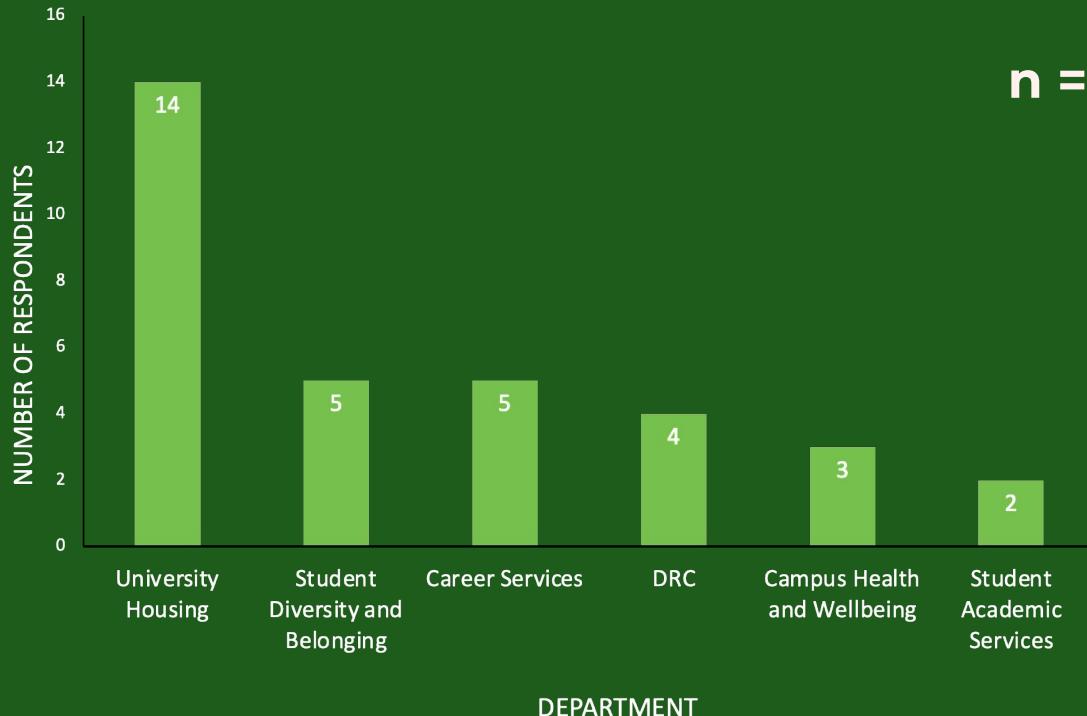




Response Demographics

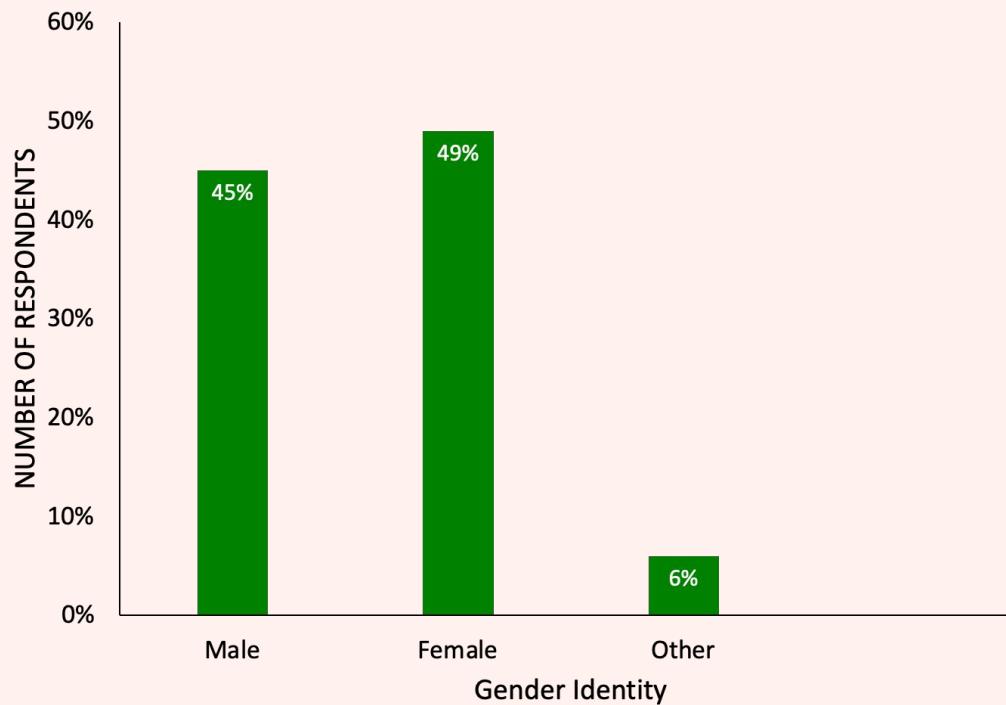
Departments, Gender identity, Ethnic Identity

Distribution of Respondents by Department



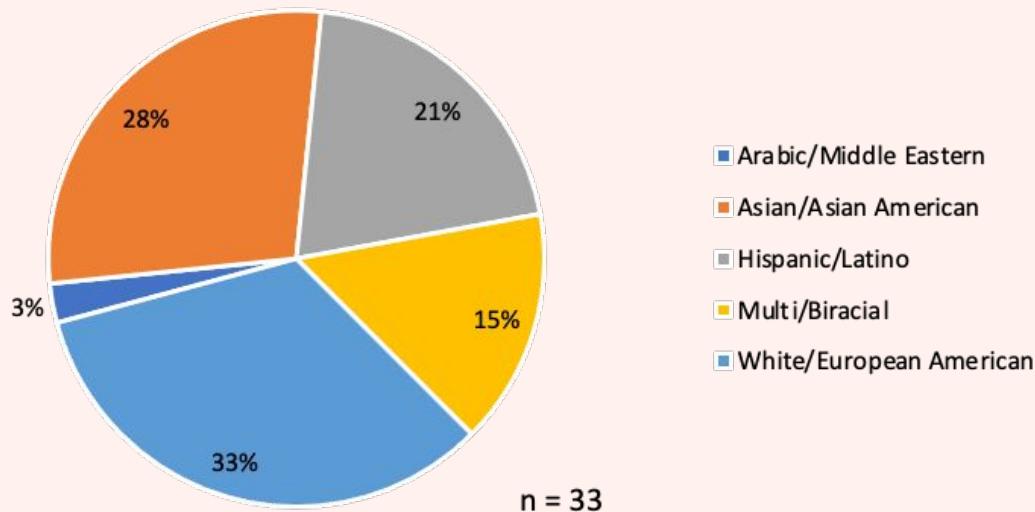
Who did we Interview?

n = 33



Who did we Interview?

Respondents Demographics: Ethnic Identity
(percent of responses)





Descriptive Statistics



Qualitative Data

If you could make one improvement, what would it be?

“Better **accessibility** and **communication** with dept heads **beyond immediate supervisor**”

“Better and **faster communication** with 'pro staff' and **respect** from them, in a modality that is **not on Zoom** chat”

- University Housing

Qualitative Data

Is there anything you want to share about your job?

"It's been a **very good social** and **professional outlet** and it's also provided **good mental health support**"

- Campus Health and Wellbeing

Qualitative Data

How would you change your job to be more **relevant** to your career ?
(holding consistent the job's main expectations)

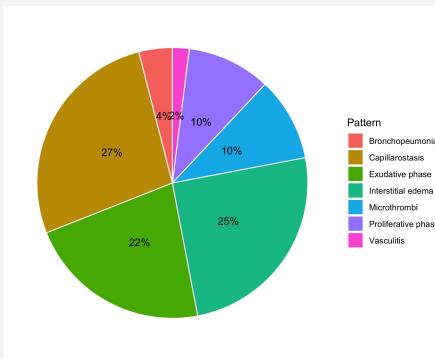
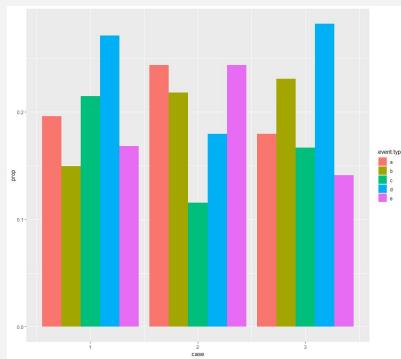
Having *more training* towards peer support is an aspect of the job but should be the primary aspect



- Career Services

Quantitative Data

What is Quantitative Data?



Examples:

- Centimeters
- Revenue
- Distribution of the audience's age

What is the Distribution of Respondents by Current Year of Undergraduate Degree?

Q6 How many years have you been an undergraduate student at Cal Poly?

One [Code = 1]

Two [Code = 2]

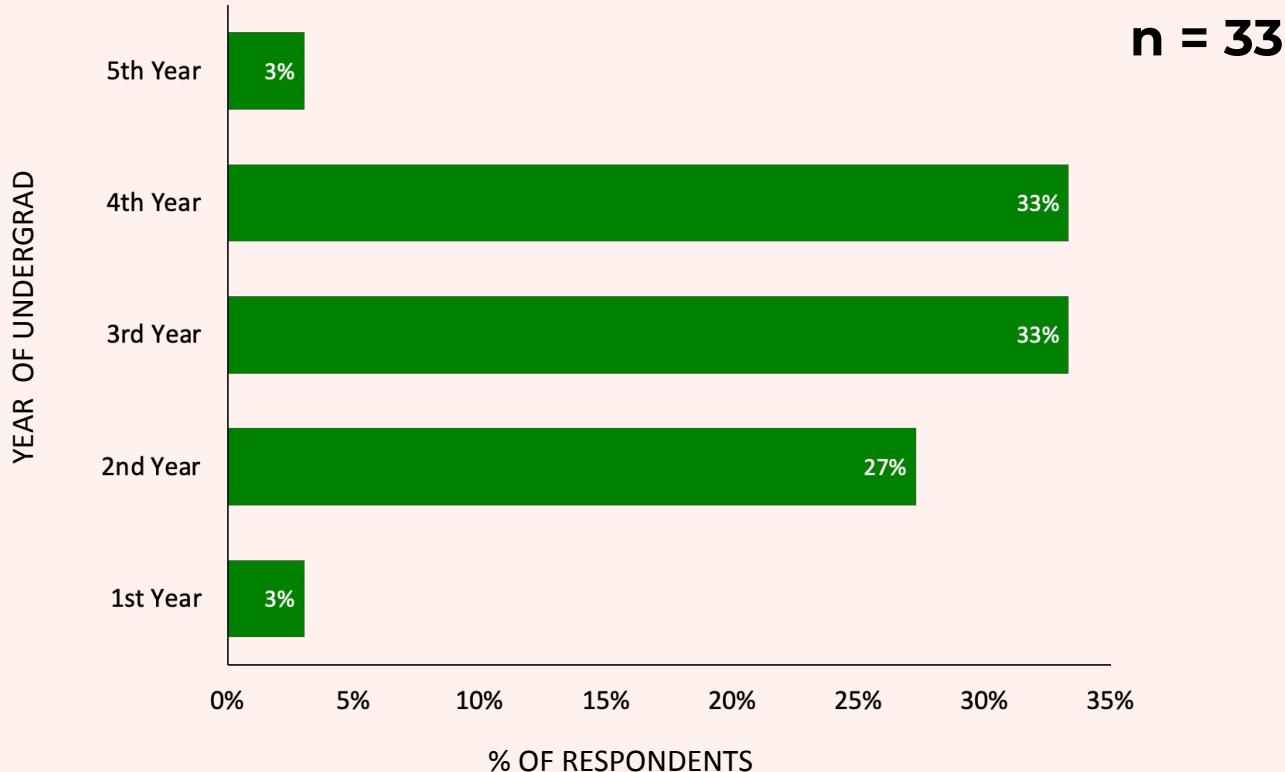
Three [Code = 3]

Four [Code = 4]

Five or more [Code = 5]

Required answers: 0 Allowed answers: 1

Distribution of Respondents by Current Year of Undergraduate Degree



How do Respondents' Pay for School?

Q11 College students fund their education in many ways, I'm going to read you several ways that you may fund your education. For each way, please tell me if it applies to you.(Read each option, select all that apply)

Prefer not to answer [Code = 8] [N/A]

Pell Grant [Code = 1]

Cal Grant [Code = 2]

Scholarships [Code = 3]

Loans [Code = 4]

Working to pay it [Code = 5]

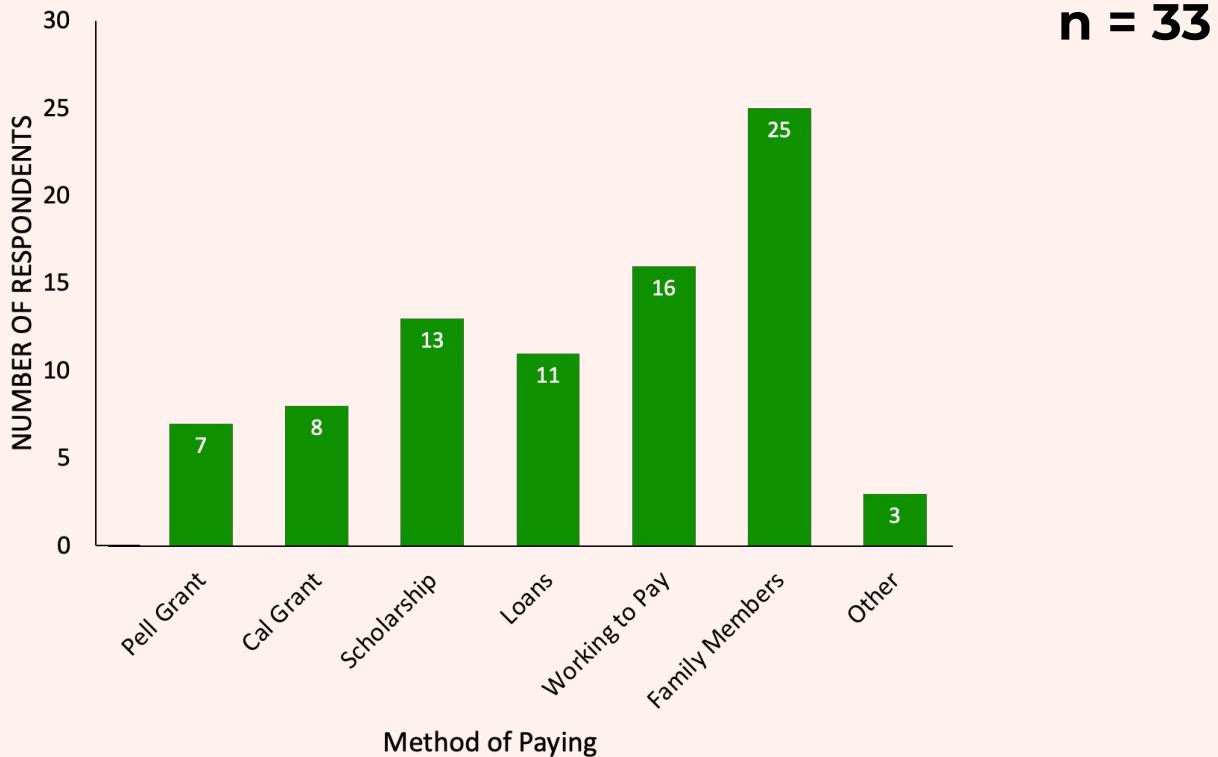
Family Members or Other Supporters [Code = 6]

Other [Code = 7] [Textbox]

None of those [Code = 9] [N/A]

Required answers: 0 Allowed answers: 9

How Respondents' Pay for School



How did Respondents' Find their Job?

Q14 How did you find your current job? For example through handshake, career services, friends, faculty, etc.

Handshake [Code = 1]

Career Services [Code = 5]

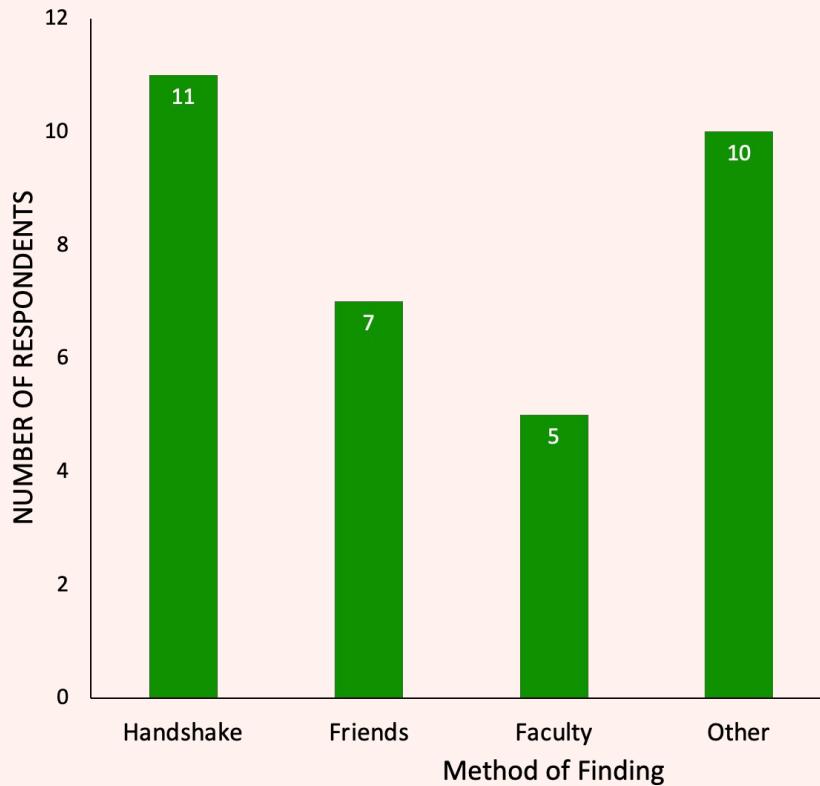
Friends [Code = 2]

Faculty [Code = 3]

Other [Code = 4] [Textbox]

Required answers: 0 Allowed answers: 1

How Respondents' Found their Job



n = 33

Other:

"Social media"

"Poly cultural weekend event"

"From Mustangs recovery program"

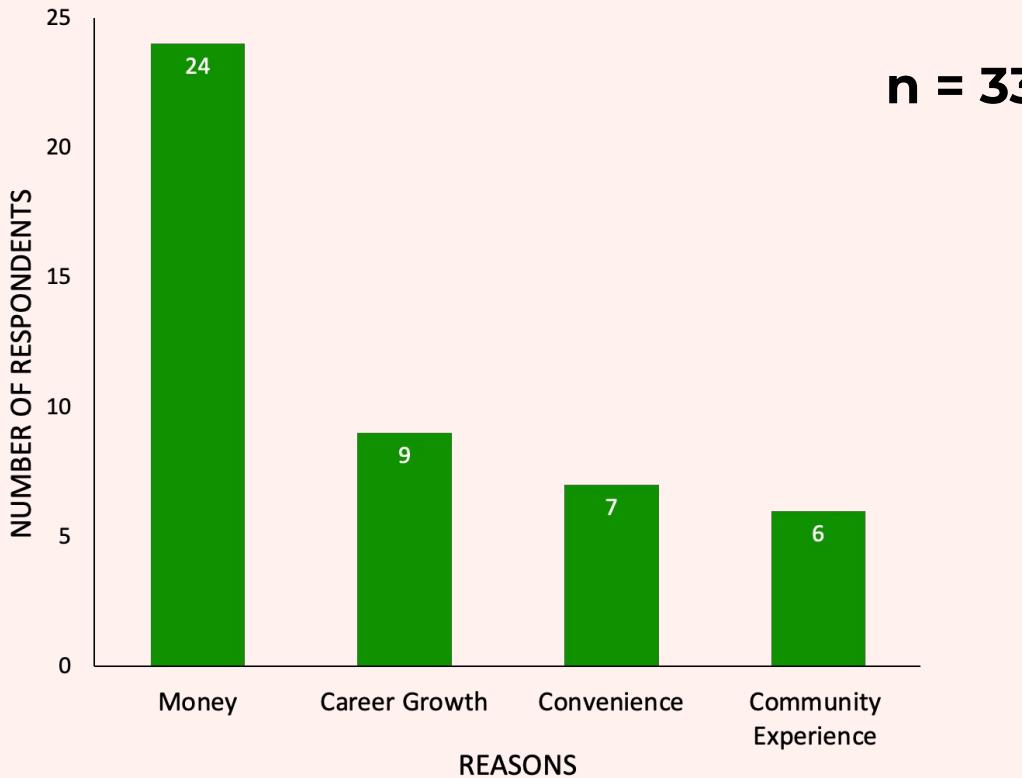
Why did Respondents' Decide to Work?

Q18 Students choose to work and select positions for a variety of reasons; such as convenience, money for school, flexibility, career growth, and more.What motivated you to choose to work at your current position?

[Code = 1] [Textbox]

Required answers: 0 Allowed answers: 1

Respondents' Reason Behind Working



Are Some Departments More Social than Others?

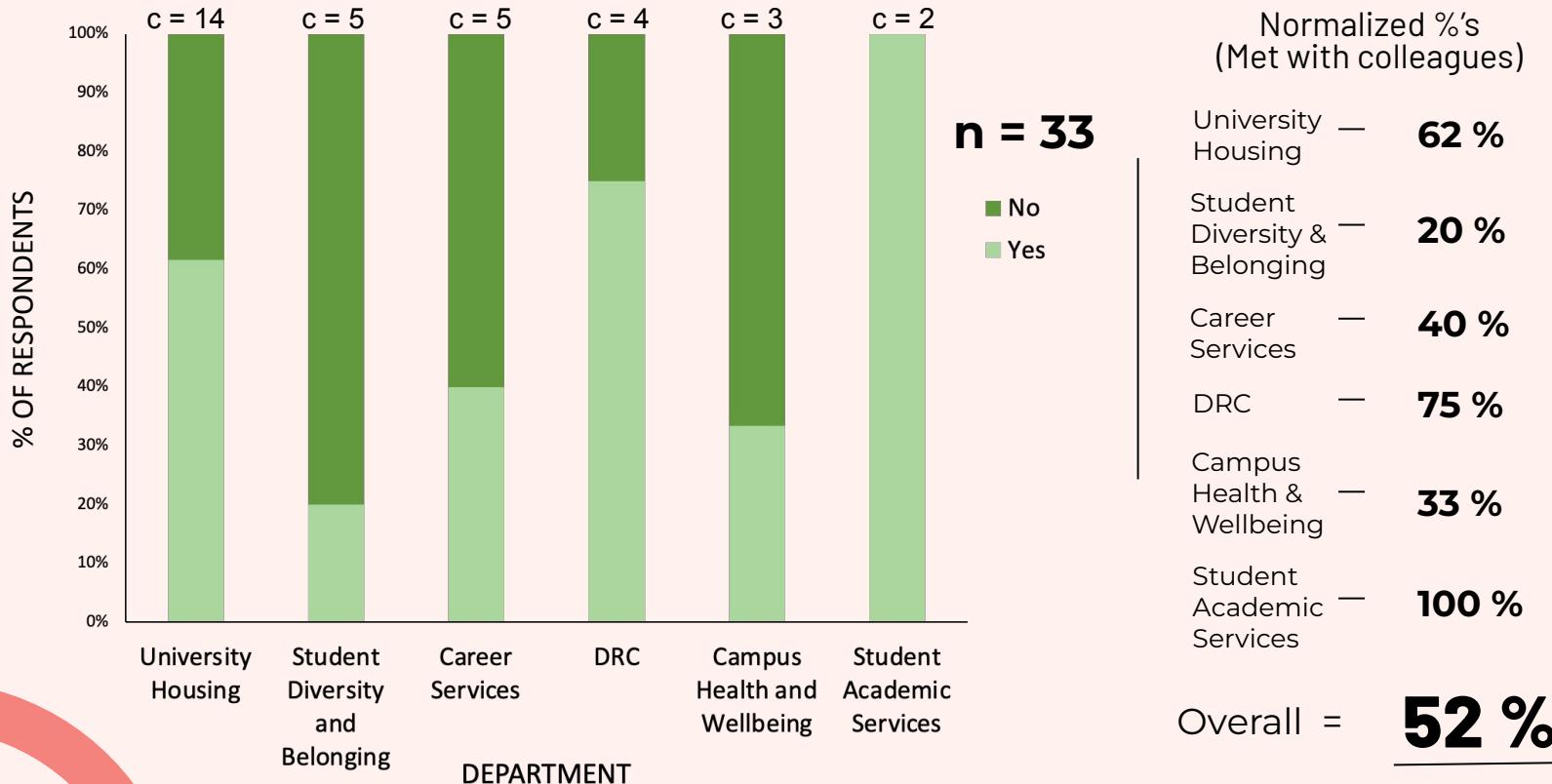
Q38 Have you met with colleagues outside of work?

Yes [Code = 1]

No [Code = 2]

Required answers: 0 Allowed answers: 1

Distribution of Employees Who Meet Colleagues Outside of Work by Department



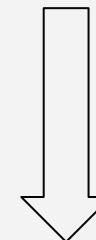
Pop Quiz :)

Using the fulfillment scale, how professionally fulfilled do you feel in this position ?

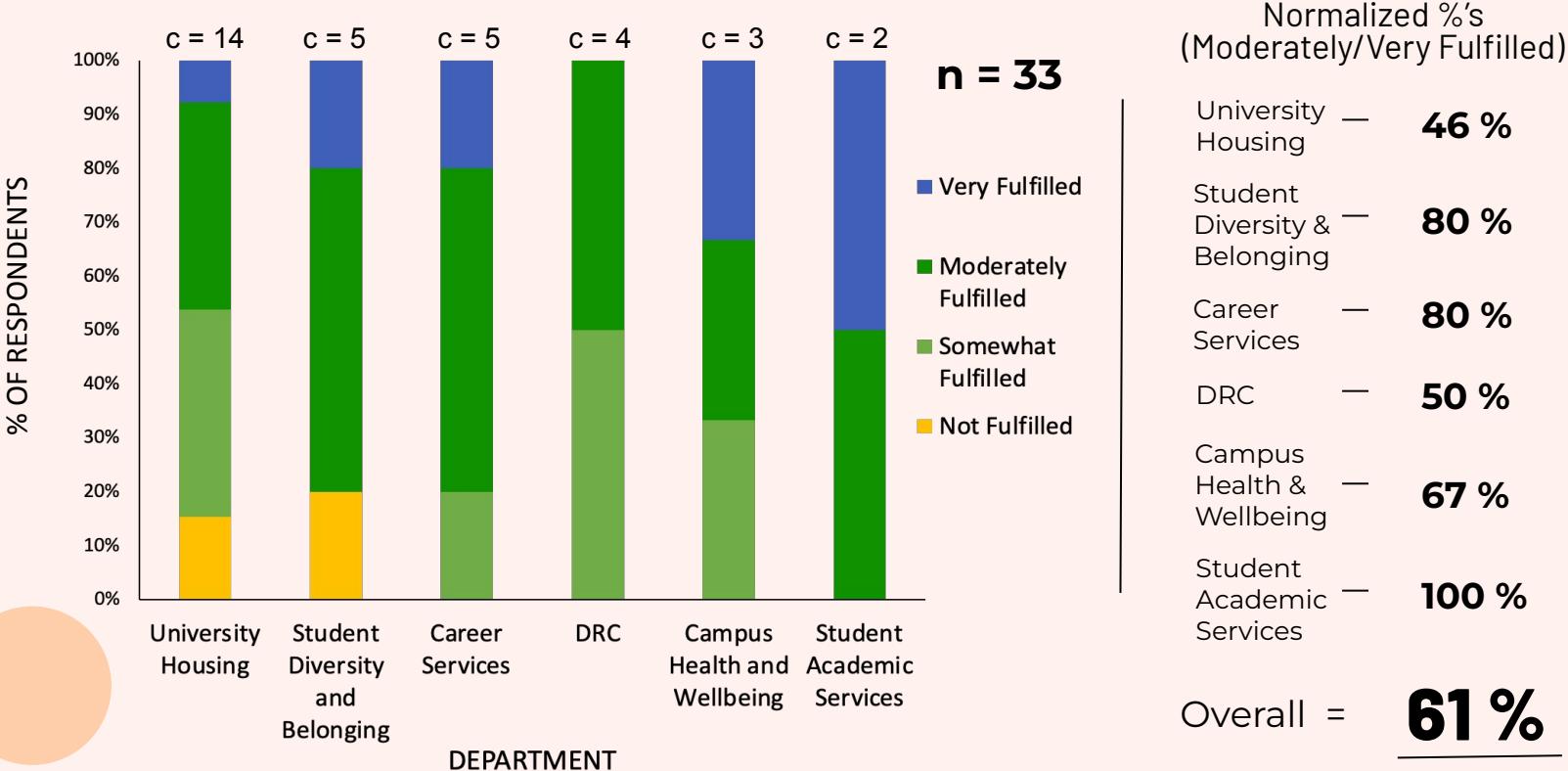
Moderately **AND** Very Fulfilled



50 %



Professional Fulfillment by Department



Do Respondents' in Different Departments Differ in Levels of Overwhelmedness?

Q36 Using the frequency scale, how often do you feel overwhelmed with work from your employment?

1 - Never [Code = 1]

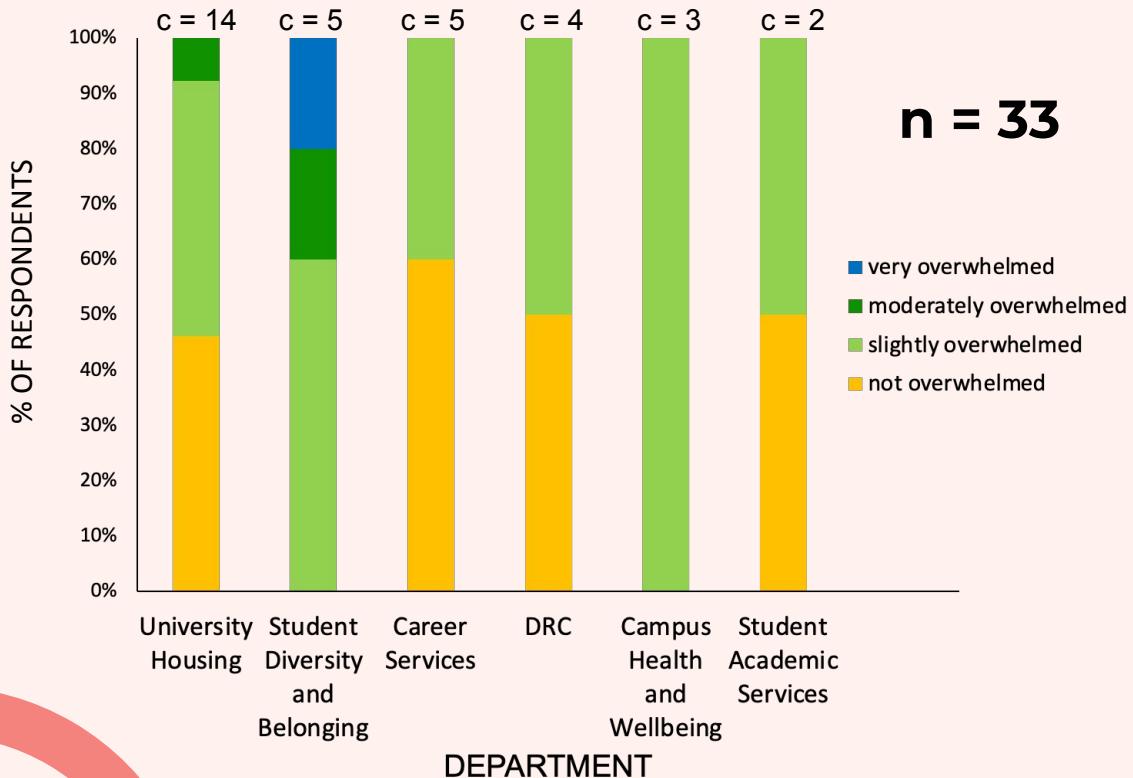
2 - Somewhat Frequently [Code = 2]

3 - Moderately Frequently [Code = 3]

4 - Very Frequently [Code = 4]

Required answers: 0 Allowed answers: 1

Level of Overwhelmness by Department?



Normalized %'s
(Moderately/Very Overwhelmed)

University Housing	—	7 %
Student Diversity & Belonging	—	40 %
Career Services	—	0 %
DRC	—	0 %
Campus Health & Wellbeing	—	0 %
Student Academic Services	—	0 %

Overall = **9%**

Inferential Statistics

- Chi square tests used for finding significant differences between categorical data
- Used both Pearson and Rao-Scott chi square tests
 - Rao-Scott chi square test is an adjusted version of Pearson

Inferential Results: **Demographic Analysis**

- **9/33 (27.2%)** of the people sampled are Pell grant recipients
 - ~**28.9%** estimated for entire population
- **34%** of undergraduates nationwide receive a Pell grant
- P-value is **0.0193** (<0.05)
 - Significant!

Inferential Results: Demographic Analysis

- **22/33 (66.7%)** of the people sampled work in-person
 - ~72% estimated for entire population
- P-value is **0.0085** (<0.05)
 - Significant!

Q13 For your position do you work in-person, remotely, or as a hybrid of both?

In person [Code = 1]

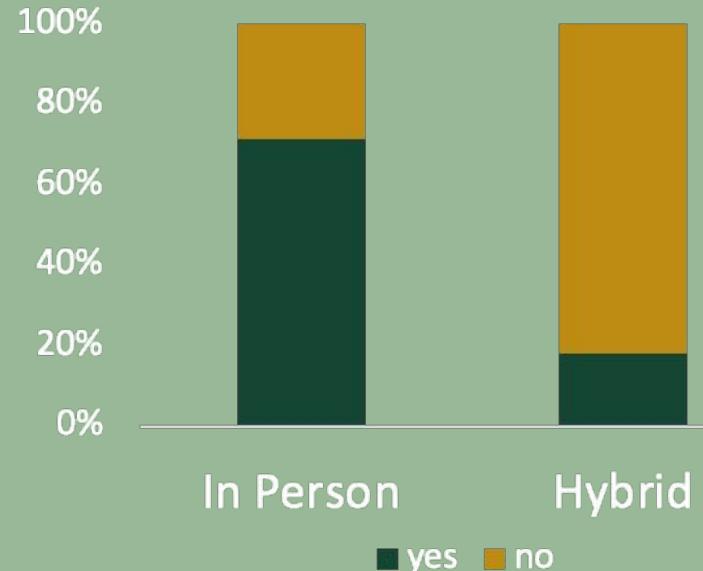
Remote [Code = 2]

Hybrid [Code = 3]

Inferential Results

Social Interaction by Hybrid/In-person Employees

- **15/21** student employees who work in person meet their colleagues socially
 - Only **2/11** for those who work hybrid
- Student employees who **work in person are more likely** to meet their colleagues outside of work
- P-value is **0.0039** (<0.05)
 - Significant!



Job Search

Handshake was the **#1** source of how student employees found their job

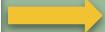


$\frac{1}{3}$
of responses

Key Findings

Correlations

There is a **significant** relationship between **work modality** and employee's meeting outside of work



Educational Funding

How student employees are funding their education illustrates a **family-supported** campus



Overall Satisfaction

Cal Poly student employees have a **HIGH** degree of satisfaction for their job



Career



Onboarding Effectiveness



Work Environment

Insights for Student Affairs

Occasional training workshops to help foster skills within position

More events to help foster more social interaction between coworkers

Encourage more opportunities for growth within a position

Project Recommendations:

Improving Response Rate:



- CONTACT DEPARTMENTS IN ADVANCE
- LARGER SAMPLE FRAME

General Suggestions:

- TIME ALLOTMENT REVIEW

Allot less time on the questionnaire design so that more time and energy can be administered to other aspects of the project such as interviewing, training, and analysis

- PRESENTATION VS. DATA TEAM

Implement the addition of a Presentation team, and select one member from each to serve as a bridge between groups

*(Example: Teammate on the analysis team works on the instrument design)

Project Reflection

Survey Responses

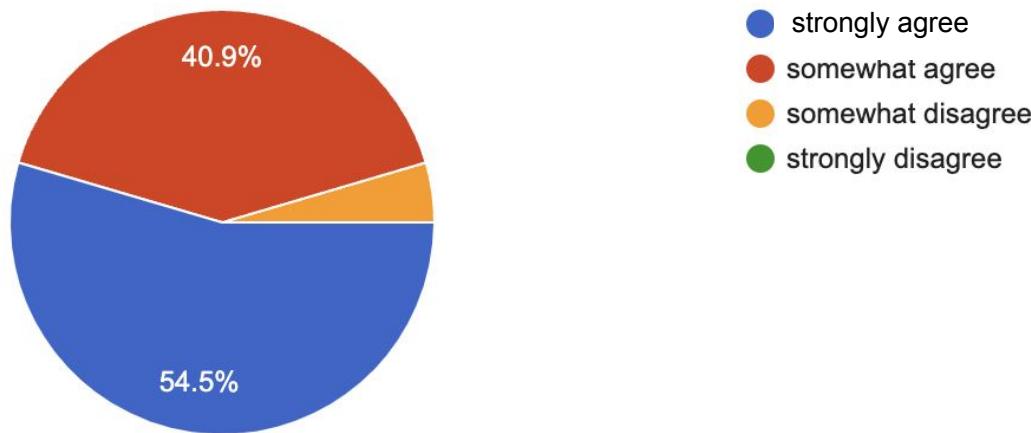
What Were Stat 421 Students' Favorite Part of the Project?

Most Common Answers:

- Conducting Interviews
- Learn by Doing!
- Individual Team Tasks
- Interacting with the Clients

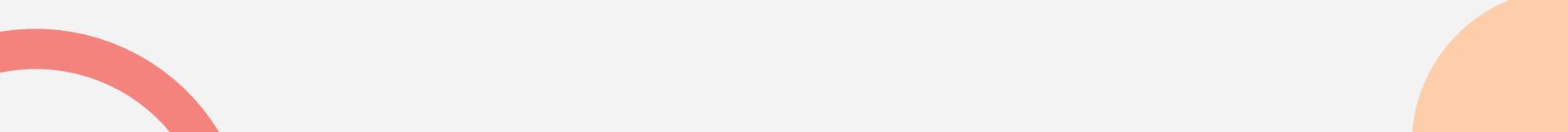
How much do you agree or disagree with the following statement:
"This project contributed to my learn by doing experience at Cal Poly"

n = 22





**Thank you to Professor
Smith, Dr. Grant, and
Andres!**



Questions?

Thank You!!!
