Poly Under Pandemic:

A Pilot Survey Examining Cal Poly SLO’s Student Body During the COVID-19 Pandemic

A Senior Project

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## Contents

Chapter One: Introduction ............................................................................................................ 5  
Overview ........................................................................................................................................ 5  
Background of the Problem ........................................................................................................... 5  
Setting for the Study ..................................................................................................................... 6  
Survey Questions .......................................................................................................................... 6  
Consent for an Internet Survey ..................................................................................................... 7  
Demographic Screening Questions ............................................................................................... 7  
Research Questions ....................................................................................................................... 9  
Chapter Two: Literature Review .................................................................................................. 12  
Existing Academic Research ........................................................................................................ 12  
Psychological Impacts .................................................................................................................. 12  
Remote Learning .......................................................................................................................... 12  
Students’ Perceived Satisfaction ................................................................................................. 13  
Student Family Life ...................................................................................................................... 14  
Media & COVID-19 Knowledge .................................................................................................... 15  
Cal Poly Demographics ................................................................................................................. 15  
Chapter Three: Methodology ...................................................................................................... 17  
Factoring ....................................................................................................................................... 17  
Limitations ..................................................................................................................................... 17
Delimitations .................................................................................................................. 18

Chapter Four: Analysis .................................................................................................. 19

Demographics .................................................................................................................. 19

  Respondent Status ......................................................................................................... 19

  Ethnicity ......................................................................................................................... 20

  Gender Identity .............................................................................................................. 21

  Sexuality ......................................................................................................................... 22

  Religion/Spirituality ...................................................................................................... 23

  Political Affiliation ........................................................................................................ 24

  College Affiliation ......................................................................................................... 26

  Dependent/Independent Status & Income ..................................................................... 28

Research Questions .......................................................................................................... 31

  Mental Health .............................................................................................................. 31

  Career Prospects .......................................................................................................... 36

  Preferred Media Sources .............................................................................................. 38

  Habits ............................................................................................................................ 39

  Changes in Political Stances ......................................................................................... 42

  Perceptions of University Institutions ......................................................................... 43

Chapter Five: Conclusions .............................................................................................. 47

  Limitations .................................................................................................................... 47
Reflection........................................................................................................................................... 48

Works Cited........................................................................................................................................... 49
Chapter One: Introduction

Overview

My intention with this senior project was to create a survey and a resultant data set that captures the experiences of Cal Polytechnic State University (Cal Poly) students in San Luis Obispo, CA, two years into the COVID-19 pandemic of 2020. This paper describes the process of designing and administering a pilot survey to explore this moment in Cal Poly’s history.

Background of the Problem

To beat a very dead horse, the COVID-19 pandemic has been, remains and will continue to disrupt multiple dimensions of human life for the foreseeable future. And students are by no means exempt from the impact. The United States has been especially hard-hit, leading the world in both cumulative cases and deaths (over 84 million and 1 million respectively, as of early June 2022, according to the Centers for Disease Control & Prevention\(^1\)).

The idea for this survey came to me in the fall of 2020. I had grown up fascinated by things like zombie plagues. I loved reading stories about the monsters they spawned, the ways in which they spread, and how people adapted to overcome their trials. While this particular pandemic has been largely lacking in limb-lobbing, there was plenty of time spent isolating indoors, checking screens for news, monitoring for symptoms in yourself and those you lived with, and mourning for what was lost. The loss of not just human life, but the moments big and small that make up that life, will be felt for generations to come. During this brief window of time, I had seen enough change just among human norms to realize that society would benefit from a snapshot of college life at this time.

\(^1\) See “Works Cited” (CDC, 2022)
I pitched my idea to Professor Patrick Howe, my faculty advisor through the journalism department, and he encouraged me to turn this into my final project. Before taking this class, I also consulted with Dr. Bethany Conway, a faculty member of the communications department and a mass/political media researcher, for advice on forming my vision into an actionable plan. My imagined end goal was to examine factors like sex, ethnicity, college major and income, and analyze how different college students responded to the effects of the pandemic. The setting being a university, I also wanted to examine how the institutions within were perceived by students over the course of the pandemic.

Setting for the Study

This survey was always designed to be distributed among Cal Poly’s student body. There was a long discussion over exactly which students should be eligible to take the survey. My original intent was to allow any students who had attended Cal Poly between the start of the 2019-2020 school year and the end of the 2021-2022 school year. When I brought my first draft to Dr. Jeffrey Sklar in the statistics department, he pointed out that this time period was ill-defined, as it didn’t explain why students who attended during this time period should be the focus of the survey. I went back and reviewed possible markers for determining a period to accept students. Eventually, I realized that major restrictions for accessing school were implemented at the beginning of spring 2020 and were only lifted at the end of winter 2022. While some of those restrictions (i.e. campus mask mandate) returned at the end of spring 2022, I ultimately decided that this period of roughly eight quarters would capture most students who had attended Cal Poly during the pandemic.

Survey Questions

These research questions were gathered from several online and offline sources, and reviewed by both Professor Antonio Prado, my senior project advisor, and Dr. Sklar. Their insights were extremely

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2 Dr. Sklar was the faculty consultant for the Statistical Consulting Service during the spring 2022 quarter
valuable for determining which questions to ask and narrowing the overall focus of the survey. The text of the consent form and questions have been included below.

Consent for an Internet Survey

You are invited to participate in a research study about your experience as a student of California Polytechnic State University, San Luis Obispo during the COVID-19 pandemic. This study is being conducted by Brett Vollrath, a journalism senior at Cal Poly.

There are two (2) requirements to participate in this study: that you were a student of Cal Poly between spring quarter of the 2019-2020 school year (circa March 2020) and winter quarter of the 2021-2022 school year (circa March 2022); and you must be 18 or older to participate in this study.

Participation in this study is voluntary. If you agree to participate in this study, the survey will last for about 10-15 minutes. The survey includes questions about your experience within your department and college while at Cal Poly.

Participating in this study may not benefit you directly, but it will help us learn how Cal Poly students have been impacted by the COVID-19 pandemic. We expect that these questions would not be different from the kinds of things you discuss with family or friends. You may skip any questions you don’t want to answer and you may end the survey at any time.

The information you will share with us if you participate in this study will be kept completely confidential to the full extent of the law.

If you have any questions about this study, please contact Brett Vollrath at (858) 213-5379 or bvollrat@calpoly.edu.

Do you give your consent to take this survey? (Yes/No)

Demographic Screening Questions

- Current Student
  - Are you a current student of Cal Poly SLO? (Yes/No)
- Alumni
  - Are you an alumni of Cal Poly SLO? (Yes/No)
- Race/ethnicity
  - What is your ethnicity?
    - White
    - African-American
    - Latino or Hispanic
    - Asian-American
    - Native American
    - Native Hawaiian or Pacific Islander
    - Two or More
    - Other/Unknown
• Gender identity
  o What is your gender identity?
    ▪ Cisgender male
    ▪ Cisgender female
    ▪ Transgender male
    ▪ Transgender female
    ▪ Genderqueer/Gender Non-Conforming
    ▪ Other
  o If you answered "Other" to the previous question, what is your gender identity? (Qualitative)

• Sexual orientation
  o What is your sexual orientation?
    ▪ Heterosexual or straight
    ▪ Homosexual or gay
    ▪ Bisexual
    ▪ Asexual
    ▪ Other
  o If you answered "Other" to the previous question, what is your sexuality? (Qualitative)

• Faith/religious identification
  o What faith or religion do you subscribe to?
    ▪ Christianity
    ▪ Judaism
    ▪ Islam
    ▪ Buddhism
    ▪ Hinduism
    ▪ Other
  o If you answered "Other" to the previous question, what faith or religion do you subscribe to? (Qualitative)

• Political affiliation
  o How would you describe your political affiliation?
    ▪ 1-5 Likert scale
      • “Most liberal”
      • “More liberal”
      • “Remained the same”
      • “More conservative”
      • “Most conservative”
  o If you'd like, please elaborate on your political affiliation. (Qualitative)

• College
  o What is/was your college at Cal Poly SLO?
    ▪ [College of Agriculture, Food and Environmental Sciences](#)
    ▪ [College of Architecture and Environmental Design](#)
- Orfalea College of Business
- College of Engineering
- College of Liberal Arts
- College of Science and Mathematics
  - What is/was your major program at Cal Poly SLO? (Qualitative)

- Economic background
  - Are you a dependent (i.e. you currently live with your parent(s) or guardians), or are you an independent (i.e. you currently live on your own, or have started your own family)? (Dependent/Independent)
  - Based on your answer to the previous question, what is your income level? (data source: US Census Bureau, Table A-1. Income Summary Measures by Selected Characteristics: 2019 and 2020)
    - Under $5000 - $29999
    - $30000 - $54999
    - $55000 - $79999
    - $80000 - $104999
    - $105000 - $129999
    - $130000 - $154999
    - $155000 - $179999
    - $180000 - over $200000
    - I don’t know

Research Questions
- Do you believe your mental health has been impacted by the pandemic?
  - 1-5 Likert scale
    - “My mental health has worsened significantly”
    - “My mental health has worsened”
    - ”My mental health has remained the same”
    - “My mental health has improved”
    - ”My mental health has improved significantly”
- If your mental health has been impacted, please describe how. (Qualitative)
- If you have a career plan, do you still believe you can achieve your career goals? (Yes/No)
- If your career or economic prospects have changed, please describe how. If you consider your prospects to have not changed, please describe how. (Qualitative)
- What has been your preferred news medium for staying informed about the pandemic?
  - Online news
  - Print news
  - TV
  - Social media
  - Radio
  - Other
• From within these mediums, please type your most consumed source. (ex. NPR (National Public Radio) for "radio", Fox News for "TV", etc.) (Qualitative)

• Have you noticed your habits change through the pandemic?
  ○ 1-5 Likert scale
    ▪ “My habits have worsened significantly”
    ▪ “My habits have worsened”
    ▪ ” My habits have remained the same”
    ▪ ” My habits have improved”
    ▪ ” My habits have improved significantly”

• If your habits have changed, please describe how.

• Have your political views changed since the beginning of the pandemic?
  ○ 1-5 Likert scale
    ▪ “Most liberal”
    ▪ “More liberal”
    ▪ “Remained the same”
    ▪ “More conservative”
    ▪ “Most conservative”

• If your politics have changed, please describe how. (Qualitative)

• Perceptions of University Administration
  ○ What has been your perception of university administration during the pandemic?
  ○ Have you felt safe (i.e. comfortable attending campus) due to their policies?
  ○ Have you felt supported (i.e. you could get academic accommodations) due to their policies?
  ○ If you had attended Cal Poly before the pandemic (i.e. before Spring 2020), did the pandemic affect your perception of university administration? If so, how?

• Perceptions of Colleges
  ○ What has been your perception of your college during the pandemic?
  ○ Have you felt safe (i.e. comfortable attending classes) due to their policies?
  ○ Have you felt supported (i.e. you could get academic accommodations) due to their policies?
  ○ If you had attended Cal Poly before the pandemic (i.e. before Spring 2020), did the pandemic affect your perception of your college? If so, how?

• Perceptions of Professors
  ○ What has been your perception of your professors during the pandemic?
  ○ Have you felt safe (i.e. comfortable attending classes) due to their policies?
  ○ Have you felt supported (i.e. you would not be left behind academically if you got sick) due to their policies?
  ○ If you had attended Cal Poly before the pandemic (i.e. before Spring 2020), did the pandemic affect your perception of your professors? If so, how?

• Perceptions of Campus Services
  ○ What have been your perceptions of campus services during the pandemic?
o Have you felt safe (i.e. comfortable accessing them) due to their policies?
o Have you felt supported (i.e. you could leave with what you needed) due to their policies?
o If you had attended Cal Poly before the pandemic (i.e. before Spring 2020), did the pandemic affect your perceptions of campus services? If so, how?

To explain where these questions originated from, we need to examine the existing scientific literature that inspired these lines of inquiry.
Chapter Two: Literature Review

Existing Academic Research

Since the beginning of the pandemic in late fall 2019, there have been numerous surveys examining the ways it has impacted university students. Below are some topics of interest that have guided my questions and later analysis.

Psychological Impacts

A paper from early 2021, titled “Psychological impacts from COVID-19 among university students: Risk factors across seven states in the United States”, examined mental health impacts of the pandemic on university students. The researchers hypothesized that policies such as social isolation and sheltering in place would exacerbate mental health issues for a group already “suffering from higher levels of anxiety, depression, substance abuse, and disordered eating compared to the general population”.

The researchers released a web-based questionnaire to seven U.S.-based universities between mid-March 2020 and early May 2020, and received 2,534 completed results total. Their analysis showed that most respondents reported high (45%) to moderate (40%) levels of psychological impact. They also identified multiple factors that seemed to be associated with higher psychological impact, such as being a woman, in fair or poor health, or being of below-average relative family income, among others. The researchers ultimately concluded that “[i]nadequate efforts to recognize and address college students’ mental health challenges, especially during a pandemic, could have long-term consequences on their health and education”.

Remote Learning

A paper from late 2020, titled “Online Delivery of Teaching and Laboratory Practices:

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See “Works Cited” (Browning et al, 2021)
Continuity of University Programmes during COVID-19 Pandemic”⁴, examined the teaching side of the shift to remote learning. The researchers wanted to examine the different approaches professors at various universities took to the sudden loss of access to university labs, and the impacts on students. While the researchers devoted their focus to the fields of engineering, science and technology, their findings may provide insights into students’ responses to remote learning.

For their paper, the researchers first explored pre-COVID research into remote learning, as well as historical examples of universities moving to remote learning (e.g. during the 2009 H1N1 influenza outbreak; after Hurricane Katrina made landfall in August 2005). They then explored different means of delivering lessons, citing effective examples of virtual labs and video recordings. However, they admit that these means demand access to both a reliable Internet connection and an electronic device capable of online connectivity, standards which are not universal for students in the U.S., let alone other countries. The researchers also admit that COVID had disrupted annual exams that would normally be a reliable barometer for measuring student success. They express concerns about the quality of virtual assessments, and fear that students may use “inappropriate” additional material that may skew their results.

On the student side, the researchers expressed concerns that students will experience higher levels of psychological stress because of university closures, and that those in STEM fields will graduate underequipped in lab skills and practices.

**Students’ Perceived Satisfaction**

A survey published in October 2021, titled “Academic student satisfaction and perceived performance in the e-learning environment during the COVID-19 pandemic: Evidence across ten countries”⁵, examined the student side of remote learning at universities, specifically during the first

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⁴ See “Works Cited” (Gamage et al, 2020)
⁵ See “Works Cited” (Keržič, 2021)
wave of cases. Similar to the preceding paper, this group of researchers wanted to explore how remote learning impacted students. However, these researchers sought empirical results for the metrics of student satisfaction and performance. To this end, they released an online survey between May 5th and June 15th, 2020 to universities across ten countries and four continents, eventually generating 10,092 responses.

In their analysis, the researchers determined that “the quality of e-learning during the COVID-19 pandemic’s first wave was mainly derived from service quality (i.e. students could request and receive assistance, even remotely) with administrative, technical and learning assistance through tutors and the library, teachers’ active role in the process of online education with their responsiveness and timely feedback, and overall system quality with the mode of delivery and IT infrastructure”. Similarly, student performance was found to depend on student satisfaction with e-learning.

Student Family Life

A paper from April 2020, titled “A Glimpse of University Students’ Family Life Amidst the COVID-19 Virus”6, examined students’ home lives during the early stages of the pandemic. Dr. Haiman Pan designed and shared a 20-question survey with her new students, specifically about their experiences stuck inside during the early days of the pandemic in China. While the data set was small, and taken from mainland Chinese students, it might parallel similar experiences among American students.

Among the responses, Dr. Pan’s students reported a marked preference for mobile phones and laptops for taking online courses. A majority also expressed a preference for live telecasts of lectures over recordings. Most students reported doing more individual activities like reading books or writing pages in their free time, as well as actively seeking out news about the pandemic. In terms of habits, a minority reported a decline in their hygiene since the beginning of the pandemic, but most expressed

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6 See “Works Cited” (Pan, 2020)
support for continuing to wear masks even after it is over. Dr. Pan noted that, overall, her students broadly felt more conscious about contracting and spreading the virus among their communities.

**Media & COVID-19 Knowledge**

A paper from 2020, titled “Assessment of COVID-19 Knowledge Among University Students: Implications for Future Risk Communication Strategies”[^7], looked at how public health information about COVID-19 was absorbed by university students. This data was collected through a 27-question survey opened to students at Wichita State University between March 13th and 31st, 2020, eventually totaling 1,136 responses.

In their results, most students reported getting news through the Internet and social media when compared to sources from other mediums (e.g. newspapers, radio, etc.). When asked about knowledge related to COVID, only a small share of the total respondents could correctly identify accurate information about COVID-19 and related public health policies.

For a series of questions with Likert scales, respondents generally indicated that, while they saw COVID-19 as a major global health threat, and that it could affect their loved ones, they believed they could individually protect themselves while public health experts worked to quell the pandemic. Additionally, respondents generally expressed beliefs that the pandemic would be over sooner rather than later, and that protective measures like wearing masks were not necessary. Overall, the researchers cited the need for continual public health messaging through trusted mediums.

**Cal Poly Demographics**

For the demographic data on Cal Poly’s student body, I decided to use two separate sources: the 2019 Cal Poly Experience (CPX) survey[^8]; and the Fall 2021 PolyView survey from Cal Poly Institutional

[^7]: See “Works Cited” (Chesser et al, 2020)
[^8]: See “Works Cited” (Williams et al, 2019)
Research\textsuperscript{9}. The CPX survey gives in-depth, comprehensive data on the campus climate prior to the pandemic (the “before times”, if you will), which can be used to compare current attitudes toward different Cal Poly institutions. Meanwhile, PolyView provides the most up-to-date overview of student enrollment, college attendance, ethnicity, etc. The specifics will be brought up and examined later in the paper.

With the conclusion of the literature review, we need to examine how this survey was composed for the purpose of distribution, data collection and analysis. Of course, this survey comes with its own challenges and considerations that need to be addressed, and the following chapter will discuss these in depth.

\textsuperscript{9} See “Works Cited” (Cal Poly Institutional Research, 2021)
Chapter Three: Methodology

Factoring

In the exploratory stage of this project, I debated what types of questions to ask as part of the survey. Through conversations with professors Howe and Conway, I condensed the number of areas I wanted to focus on. The literature review gave me good examples of real-world research, which I considered directly relevant to students at Cal Poly.

Limitations

The survey was opened to several Cal Poly-oriented online spaces (e.g. r/CalPoly on Reddit, Cal Poly SLO Anime Club’s Discord server, etc.), and to one JOUR 285 class hosted by Tony Prado. The first entry was made on May 18, and the last was submitted on June 2, 2022. In a period of just 15 days, this survey received only 46 responses. This number is too small to generate any strong conclusions about the effects COVID-19 has left upon the student body. Given that the student body has hovered at around 22,000 students\(^\text{10}\) for the past two years, it would take approximately 378 responses from students to generate any results with a 95% confidence interval. Even a 70% confidence interval would require 108 responses. As it stands, the margin of error hovers at around 14%. However, I hope that what was produced can serve as a pilot survey on how to model a larger survey into student attitudes and well-being.

Another limitation is the lack of diversity in responses. According to both the California State University (CSU) system and Mustang News, Cal Poly’s own paper of record, the university has a longstanding reputation for being composed predominantly of white students. While lacking a strong majority, Cal Poly’s 2021 PolyView document did find that 53.2% of the student body identifies as

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\(^{10}\) See “Works Cited” (Cal Poly News, 2022)
White. The data does not clarify how many students identify as “non-White Hispanic”. And while a good many of the respondents do not fit into this mold, there are too few to make reliable statements about those of other ethnicities, sexual and gender identities, income levels, and other factors of their individual lives. However, despite this shortage of certainty, I believe the survey results, as they stand, can offer a valuable glimpse into student life during the COVID-19 pandemic.

Delimitations

This survey was only ever intended for current and recent students of Cal Poly. And, as stated in the previous section, there are nowhere near enough results for me to speak confidently to the wider generalized applicability of the results. However, should someone after me decide to do a larger and improved version of this survey, the results should be strong enough that they could be confidently extrapolated to bigger groups of college students. What has already been produced, however, can serve only as a call for more research.
Chapter Four: Analysis

Demographics

Respondent Status

These results show that most respondents were still attending Cal Poly at the time that they took the survey. Of these alumni, one is currently a graduate student at Cal Poly.
Going off these results, the proportion of white respondents here corresponds to that observed in other surveys, such as Cal Poly Institutional Research’s latest PolyView document for 2021 (53.2%). The proportion of Latino and Hispanic students is slightly higher in the survey than in PolyView 2021.

Upon further review, I believe that this section, as well as the following sections inquiring about gender identity and sexuality, could and should have been written in a more comprehensive manner. I discovered too late that the Gender & Sexualities division of Cal Poly’s Student Affairs had already produced a comprehensive document detailing questions to be asked as part of demographic surveys. While I’m not required to use such standards, upon review I believe they using them would’ve yielded more valuable data.
According to these results, 47.83% of survey respondents identified as women, 39.13% identified as men, and 13.04% identified as either gender non-conforming or some other gender identity. This last demographic is overrepresented compared to the results of either the 2021 PolyView survey or the 2019 CPX Research Study Executive Report.
Most respondents identified as heterosexual, with a significant subgroup identifying as bisexual. While PolyView does not track sexuality, the 2019 CPX survey reported 15.1% of Cal Poly students as belonging to the LGBTQ+ community. Compared to that metric, this smaller survey appears to overrepresent queer respondents in its results.
In these results, more than half of respondents did not identify with any faith. A quarter identified with Christianity, and the remainder identified with other faiths. Neither PolyView nor CPX track the spiritual or religious affiliation of Cal Poly students. However, Pew Research Center’s 2014 U.S. Religious Landscape Study may serve as a good point of reference for examining the role of faith at Cal Poly.

Looking at Pew’s survey data, 66% of participating college graduates identified as Christian, 25% as unaffiliated (“none”), and 9% identified as part of a non-Christian faith. Compared to this smaller survey, Christians and the nones appear as though they have switched positions, demographically. This may indicate that the nones are overrepresented in the survey. But I hesitate to extrapolate too much, particularly since, by the Pew survey’s age limits, the youngest respondents in the Pew survey would be categorized as Millennials. By contrast, all the respondents for the survey that you are currently reading

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11 See “Works Cited” (Pew Research Center, College graduates, 2022)
should be members of Gen Z, which Michael Dimock, Pew’s current president, defined in a 2019 letter as “anyone born from 1997 onward”.

To put things in more of a temporal context, younger respondents in the survey trended towards reporting less belief in the existence of God. Additionally, they reported lower rates of regular religious service attendance, prayer, meditation and other forms of religious practice. This indicates an overall trend away from religious affiliation among American youth. However, this does not mean that spirituality is declining in concert.

**Political Affiliation**

The results indicate an overall liberal slant among respondents. This could be attributed to a large influx of College of Liberal Arts (CLA) students. A copy of this survey was shared with a lower-level journalism class, with respondents promised extra credit for completing the survey. In this particular survey, every student self-reported as a journalism major. Seven respondents identified as “lean liberal”,

12 See "Works Cited" (Dimock, 2022)
13 See "Works Cited" (Pew Research Center, Age distribution, 2022)
14 One student double-majored in both aerospace engineering (CENG) and physics (CSM). The student is counted once in both colleges for the purposes of this chart.
six as “very liberal”, one as “centrist”, and one “other”. These 15 responses form nearly 1/3\textsuperscript{rd} of all responses recorded, and the largest concentration of a single major.

Further, as shown in the chart below, there are notable spikes of CLA-identified respondents in both the “very liberal” and “lean liberal” categories. Conversely, the “lean conservative” and “very conservative” options are almost entirely depopulated, further tilting the results to the left. As we will see, there has been a noted generational shift by Gen Z to the left, in line with general trends observed since WWII.

There is current research indicating that Gen Z, the generation to which these students belong, is becoming increasingly liberal at the national level. Pew Research has determined through their surveys that “Gen Zers” are more liberal compared to previous generations, particularly in regards to race relations, same-sex marriage, and wanting an “activist government”, among other political issues.\textsuperscript{15} While not every respondent elaborates on what political issues inform their affiliations, this survey does seem to reflect what larger surveys have recorded about Gen Z at the national level.

\textsuperscript{15} See “Works Cited” (Parker & Igielnik, 2022)
More recently, COVID vaccines have created a partisan wedge in the US, which has resulted in upticks in infections and deaths among communities where resistance to vaccines is higher\textsuperscript{16}. While higher levels of education are associated with higher vaccination levels (and often enforced through means, substantial gaps in vaccination rates were observed alongside factors like whether the respondent came from urban vs. rural communities, possession of health insurance, religious and, yes, political affiliation. In the absence of outside data on the political affiliations of the different colleges, I am forced to rely on what has been reported by respondents.

Results marked as “other” were allowed to describe their political affiliation. Self-descriptions included one anarchist, one anarcho-communist, and one alt-right adherent. The remainder did not indicate belonging to a particular ideology.

College Affiliation\textsuperscript{17}

\textsuperscript{16} See “Works Cited” (Tyson & Funk, 2022)
\textsuperscript{17} One student double-majored in both aerospace engineering and physics. The student is counted once in both colleges for the purposes of this chart.
The PolyView document for fall 2021 offers the most up-to-date information on college affiliation. Since most respondents are either pursuing, or have already gotten, their bachelor’s degree, we can use PolyView’s chart for bachelor’s degrees awarded to gauge how representative this survey is of Cal Poly students’ college affiliations.

![Image of Bachelor's Degree chart](Image source: PolyView, Fall 2021 (pg. 5))

For the sake of comparison, here is a horizontal bar chart version of the chart at the beginning of this section.

![Image of College Affiliation chart]
Immediately, we can see that the results are heavily skewed towards the CLA, for reasons mentioned in the previous section. This obscures the total representation of the survey. Another flaw in the results is the absence of any responses from the College of Agriculture, Food and Environmental Sciences (CAFES).

Dependent/Independent Status & Income

![Dependent/Independent Status Chart]

![Self-Reported Income Distribution Chart]
Based on the results, respondents tended to lean towards being dependents, and of lower income status. This seems to go against existing reporting on the income status of Cal Poly students. While the university does not reveal income data about its students, a 2017 New York Times investigation of anonymous tax filings\(^\text{18}\) found that Cal Poly had one of the most economically privileged student bodies of any university in the United States.

Their findings indicate much higher levels of family wealth than what was captured as part of this survey. Reviewed tax filings showed that 67% of students belonged to the upper 20% percentile for income, with a median family income of $152,900. Since this is not reflected in the results of this survey, the discrepancy is most likely explained by the survey’s small sample size.

\[\text{Income in Relation to Dependent/Independent Status}\]

Even when comparing income to tax filing status, the absence of richer students is still not explained. Brief examples of dependent and independent status were provided, with the assumption that respondents would understand the difference. But the high number of reported ≤$30k incomes

\(^{18}\) See “Works Cited” (Buchanan & Aisch, 2017)
makes me question if respondents may have been confused as to which option they should have selected. Absent any qualitative data, we are left to wonder.
Most students reported their mental health as having gotten significantly worse during the pandemic. Many of the qualitative answers share themes of lost social skills during remote learning, anger at social isolation policies, and newfound or worsened symptoms of mental illness. Despite this, a minority of students reported their mental health as having improved.

While the applicability of the following charts is limited by the number and variety of responses, the data does fall in line with risk factors for higher psychological impact noted in the literature review. The five most significant risk factors identified by the researchers (Browning et al, 2021) were:

- Being a woman
- Having fair/poor mental health status
- Being between 18 and 24 years of age
- Spending 8 or more hours on screens daily
- Knowing someone infected by COVID-19
With these factors in mind, we can compare our results with a reliable source of outside data.

To quantify the relative mental health for each gender category, I looked to the CPX survey for inspiration. As part of their research, the team produced a “scoring matrix” to quantify the performance of Cal Poly’s campus climate in certain areas. To this end, I developed a similar metric for the purposes of this survey. To demonstrate, here is how the score for cisgender women was calculated:

1. Each mental health option was assigned a number on a 1-5 scale (e.g. 5 for “improved significantly”, 3 for “remained the same”, 1 for “worsened significantly, etc. The higher the score, the better mental health is rated)

2. For each gender category, there are a variety of responses given. These options are subtotaled (e.g. out of the 21 respondents who selected “cisgender woman”, 4 reported their mental health as “improved”, 2 as “remained the same”, 11 as “worsened”, and 4 as “worsened significantly”)

3. Weight was given by multiplying subtotals by the number corresponding to that option (e.g. 4 “improved” responses times a weight of 4 makes a weighted score of 16, etc.)
4. The weighted scores are totaled (e.g. weighted scores of 16 for “improved”, 6 for “remained”, 22 for “worsened” and 4 for “worsened significantly” make 48 total)

5. This total is then divided by the total number of responses per gender category (e.g. weighted total of 48 divided by 21 total responses makes a score of 2.2857, which reduces to 2.3)

Using the above process, the relative mental health score for each gender category is as follows, falling on a scale from 1 (terrible mental health) to 5 (excellent mental health):

- Cisgender women: 2.3
- Cisgender men: 2.6
- Transgender female: 5.0
- Genderqueer/Gender non-conforming: 2.3
- Other: 2.0
- Prefer not to say: 1.0

Of the two most populated categories, cis men came out ahead of cis women in terms of mental health, as predicted in the literature. Regarding the other three categories, their responses are too low to make a definitive statement, and should not be considered as representative of their respective populations.

As an example, only one respondent identified as a trans woman, and then reported a strong improvement in mental health. This contrasts with existing research showing elevated rates of mental health issues among trans and nonbinary people, especially during the pandemic.19

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19 See “Works Cited” (van der Miesen et al, 2020)
As calculated using the method described in the previous section, the mental health metrics for each sexuality category are as follows, falling on a scale from 1 (terrible mental health) to 5 (excellent mental health):

- Heterosexual or straight: 2.6
- Bisexual: 1.9
- Homosexual or gay: 5.0
- Asexual: 2.5
- Other: 1.5

Referring to the previous limitation discussed in the last section, some of these categories do not have enough responses to form strong conclusions. While the “homosexual or gay” category has the highest overall score for mental health, only one result was recorded in total. Furthermore, one study\(^\text{21}\), conducted during the pandemic, has indicated that many LGBTQ+ college students were forced into

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\(^{20}\) For the asexual category, the slang term ”ace” has been used. The author’s understanding is that this term is not a slur, and is used as by members of the community to describe themselves. No offense was intended by the use of this term.

\(^{21}\) See “Works Cited” (Gonzales et al, 2020)
living situations where their immediate families were unaware of or hostile to their identities. Many of these same students also reported experiencing “psychological distress, anxiety, and depression during the pandemic”.

Reflecting this, most sexual minorities report the lowest observed scores for mental health. “Heterosexual or straight” earned the most responses, and was thus the most robust category to generate a reliable score.

While the survey received responses from various religions (see pg. 29), the two largest options were for those who did not identify with any religion (commonly referred to as “nones”), and Christians. Because the number of respondents claiming adherence to a faith was so spread-out among various faiths, it was suggested that all the “faithful” be combined into one group, in order to make an easier comparison to the nones. The logic is that, within the context of mental health, the presence of some spiritual attachment may be worth examining versus the absence of it.

In a 2020 literature review, Dr. Mohammad Fardin of the Islamic Azad University in Iran looked at 11 scientific articles examining mental health and religious practices. Based on his review, Dr. Fardin

[22] See “Works Cited” (Fardin, 2020)
determined that there was a correlation between maintaining some form of spirituality and having good mental health.

Using the same scoring system as before, the mental health scores for the two groups are as follows, falling on a scale from 1 (terrible mental health) to 5 (excellent mental health):

- Nones: 2.4
- Faithful: 2.5

While faithful respondents have a slightly higher score over the nones, there are not enough responses to say anything definitive.

**Career Prospects**

This question was kept open-ended, with the intention to split the difference between students who might have just started their college journey, and those who might already be in a full-time career. The downside is that the definition for “career goals” is left entirely to the respondents, and not all of them chose to qualify their responses.

Among those who did leave responses, pessimism about careers and economic prospects abound. Of the three respondents who selected “no” and qualified their answers, two reported feeling
despair at their job prospects, while a third described having her intended career path disrupted before graduation.

Among the eleven who selected “yes” and qualified their answers, similar themes of pessimism emerge. Three respondents reported plans to attend graduate school to boost their job prospects. Others reported feeling underprepared for their respective job market as undergraduates, or feeling lost as to finding a job. Here are some of the qualitative statements they gave:

“I feel as if I’m at a complete loss on what I can or cannot do.”

“A once vibrant economy held lots of promise of opportunity in the field I studied. The economy has gotten worse and the area I live in has sunk in to recession. There are significantly less opportunities to seek. What few there are, the employers want only experienced applicants. Few gave (sic) been willing to accept a new graduate like me.”

“Certain classes that I had interest in where (sic) highly impacted by online learning. I no longer have the confidence to work in any of the fields specific to those classes.”

“The pandemic solidified my decision to return to school for my masters. I may have regardless so I don’t mind that. It’s given me more time to explore my industry while that delay also means my career is staring (sic) later”

“I have been unemployed since graduating, I have finally gotten a job and it feels like my life is back on track after taking a two year pandemic pause.”

Since most respondents are not yet ready to enter the work force or at the beginning of their careers, it is too early to tell if this economic pessimism will hold among students touched by COVID. However, current economic research from the middle of the pandemic indicates that these sentiments are not limited to just college students.
In 2021, Pew Research Center conducted a survey looking at the “Great Resignation”, a wave of widespread quitting by workers amidst the pandemic\(^\text{23}\). The results were published in early March 2022, and offer an in-depth view of the reasons workers gave for leaving their previous jobs. In their results, Pew found that, while workers possessing at least a bachelor’s degree were less likely to quit their jobs compared to less educated workers, a majority of those who did reported more opportunities to advance, higher salaries, increased benefits, etc. in their new careers. Additionally, workers aged 18 to 29 were more than twice as likely (37%) as workers aged 30 to 49 (17%) to quit their jobs during the pandemic.

The most-cited reasons were low pay, limited opportunities for advancement, and a sense of being disrespected at work. While modern research has not yet been able to fully remove itself from the pandemic and its economic effects, what has already unfolded appears to have served as a catalyst for many people dissatisfied with their current conditions. Only time will tell how these effects remain and change across the lives of those who survived.

**Preferred Media Sources**

![Preferred Media Sources graph]

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\(^{23}\) See “Works Cited” (Parker & Horowitz, 2022)
While this survey did not specifically account for age, the narrow window for eligibility to take it would put most of the respondents on the younger side (i.e. Generation Z). Most respondents reported getting their news through digital sources like online news and social media, which was expected based off of modern research on media habits.

In a 2021 Pew Research Center study of media habits in the United States\textsuperscript{24}, 84% of respondents aged 18 to 29 reported using some form of social media, the largest percentage of all age cohorts. This is in line with long-standing trends towards increased tech adoption among Americans, and particularly younger generations.

Habits

![Habits Chart]

Unfortunately, “habits” were not defined or differentiated in the original question, which will limit the full utility of the responses. Similar to the questions on mental health, a plurality of students reported their habits as having gotten worse during the pandemic. However, a minority of students reported their habits as having improved during the pandemic.

\textsuperscript{24} See “Works Cited” (Auxier & Anderson, 2021)
When examining habits through the lens of mental health, there appears to be a correlation between respondents’ self-reported statuses in both categories. As shown in the above chart, respondents who reported their mental health as having declined generally reported their habits as having gotten similarly worse. This effect is less present for those who reported their mental health as having improved, but this is likely due to a larger share of respondents reporting negative experiences overall, not just for this metric.

These results are in line with research released in early September 2020, looking at the mental health of 195 students at a single public university in the U.S. Among their results:

- 91% of students reported increased health concerns
- 89% reported difficulty concentrating
- 86% reported disruptions to sleeping habits
- 86% also reported increased social isolation
- 70% reported disruptions to eating patterns

25 See “Works Cited” (Son et al, 2020)
• 44% reported depressive thoughts

Many of these same concerns appeared in qualitative statements respondents gave about their habits. Here are some examples:

“During the pandemic/following the pandemic I work out less, play more video games, and the biggest change I found is that I eat much worse food.”

“The largest one is that I have trouble making (sic) up in the morning now, I’m used to being able to wake up 10 minutes before class and still make it. This has resulted in me missing several classes.”

“I sometimes wash my hands so much that they crack and bleed.”

“Working from home and doing school from home has made me lazier and given me more opportunities to procrastinate - which I’ve always done. But now I’m worse at it.”

“Less focused and patient with time-consuming tasks. More willing to go outside my comfort zone. Less likely to do exercise. Less looking forward to the future.”

However, not all statements were negative. For some respondents, the pandemic has benefited their lives, at least in part. While they only make up a minority of statements given, it feels appropriate to share some of the more positive examples from respondents:

“Improved rigidity of sleep schedule and improved hygiene (sic) to make it feel like I was still doing useful things every day.”

“I have a healthier relationship with myself due to extensive amount of time alone with my thoughts, I’ve been able to process a lot of trauma and my habits have gotten healthier as a result.”

“Transitioning during the pandemic significantly improved my mental health and allowed me to sort out my life.”
Changes in Political Stances

In the results, a plurality of respondents reported a slight leftward shift in their political views. This might be due to the influx of CLA students described earlier in this paper.

Most respondents’ views did not shift to the left or to the right, but most did not also share their reasons for why any changes might have occurred. Here are some qualitative statements from respondents:

“As I have gotten older and especially through the pandemic, I have become more interested in politics and being politically involved.”

“I have become more conservative owing to the way the pandemic was handled by the two different administrations.”

“I’m very disappointed in the GOP establishment for allowing conspiracies to take hold, but I’m also disappointed with liberal culture which has displayed a lot of hypocrisy.”

“Increasingly unsatisfied with republican response to vaccines and masks.”
“I was mostly appalled by the general lack of care by most of the conservatives I know, including some of my elderly family members.”

“I mean *gestures at the state of the world***”

Perceptions of University Institutions

When comparing perceptions between Cal Poly institutions, respondents rate institutions that directly factor into students’ lives more highly. Respondents rated their professors the most favorably of the four institutions, while university administration earned the worst reputation overall.
While I included vague examples of what I was aiming for in the questions, there wasn’t a significant amount of variation between ratings for the different institutions, and I fear the usefulness of these two questions were limited by my lack of definitions for “safety” and “support”.

The results of this question were limited by the large number of freshmen and sophomore respondents, who wouldn’t have the long views of Cal Poly institutions that more senior students would possess. Among the questions examining Cal Poly institutions, the aspect asking about changes in perceptions during the pandemic ended up being less useful. While this survey did not ask students to
define their exact year in school, an option to claim that the respondent was not a student before spring quarter 2020 was included.

As they stand, the results follow a similar pattern to respondents’ perceptions. Students’ perceptions of their professors skewed towards positivity, far above other institutions. Here are some qualitative statements that were related to campus institutions:

“I already had negative perceptions of Cal Poly administration pre-pandemic, so I would like to point that out but I think the pandemic really made clear where their priorities were (sic) at in terms of safety and money. (They chose money)”

“Lack of consideration for disabled folks as we came back to campus without masks”

“A cycle of letting up on Covid precautions when there was some improvement, just to return to following the precautions when cases increased.”

“All the CS professors I took classes with online adapted admirably, while professors from other departments were hit and miss depending on their comfort with technology. Cheating on tests seemed extremely widespread, and was a huge demotivator for me personally (felt like the work I was doing was devalued).”

Some of these criticisms have appeared in several investigations of Cal Poly’s campus climate, not just during the pandemic.

In February 2022, Mustang News reported on an Instagram account devoted to recording students’ COVID-related concerns26. These concerns included vague isolation procedures, limited responsiveness from the health center on campus, and sudden infections that conflict with students’ abilities to take classes, among others. The account expressed the intention to use these concerns to advocate for changes in university pandemic policies.

26 See “Works Cited” (Peguero & Downey, 2022)
A March 2022 piece by Mustang News\(^27\) profiled immunocompromised students, faculty and staff who felt that their concerns about the university administration’s decision to remove mask mandates for the spring 2022 quarter had been ignored. After the announcement, many members reported feeling like their physical health was being put at risk, and that their mental health was also being impacted by the announcement.

Similar criticisms of Cal Poly as a university have been raised, even before the pandemic. The 2019 CPX survey conducted a broad overview of Cal Poly’s campus climate, looking at the perspectives of students, faculty and staff. After separate qualitative and quantitative reviews, the survey determined that minority communities among all three groups reported feelings of dissatisfaction and discrimination at Cal Poly and the surrounding San Luis Obispo area. Further, all three groups saw the university’s diversity, equity and inclusion (DEI) culture, and the institutional commitment to that culture, as an area of concern.

While the CPX survey was not intended to directly critique the university, when combined with the results of the survey you are currently reading, recent examples compiled by Mustang News and other actors, and CPX’s rigorously researched results point to areas of weakness that continue to diminish Cal Poly’s perceived trustworthiness. These perceptions are picked up and spread amongst the student body, faculty and staff, and impedes Cal Poly’s ability as an institution to support those same groups.

\(^{27}\) See "Works Cited" (Rashad & Parr, 2022)
Chapter Five: Conclusions

While the survey was by no means a perfect measurement of pandemic life at Cal Poly, many of the results aligned with existing literature and research about college students experiencing the same or similar events.

Overall, Cal Poly students and recent graduates reported broadly negative experiences during the pandemic. Like many of their contemporaries, Cal Poly students reported negative changes in mental health status and worsened habits. A plurality disapproved of campus institutions’ policies during the pandemic. Yet most respondents claimed that the pandemic had not changed their personal perceptions of politics or university institutions.

As previously stated, this survey did not receive the number of responses required to be statistically significant. However, the results of this survey yield an interesting look into the reactions of some Cal Poly students during the pandemic and lockdown.

Limitations

I spent too long writing this survey, and ended up releasing this survey late. I didn’t have a plan to distribute the survey to a broad swathe of the campus, and ended up releasing it to groups that I had relatively easy access to. A lack of funding also limited opportunities to advertise the survey or incentivize potential respondents to take it. This kneecapped my ability to gather enough results from a variety of sources.

Another challenge is the fact that, as of late September 2022, the pandemic has slowed but not completely ended. US deaths are well over one million, vaccine doses have been increased to maintain effective immune responses against variant strains\(^\text{28}\), and vaccine hesitancy has remained a global

\(^{28}\) See “Works Cited” (Centers for Disease Control & Prevention’’

47
barrier to ending the pandemic\textsuperscript{29}. The effects will not, and cannot, be fully measured for years to come, limiting the usefulness of any insights gained from this survey.

\textbf{Reflection}

While these results are, again, not statistically significant, what findings we have deserve to be examined further. From the start of the pandemic, there have been a multitude of concerns expressed about student life amidst the systemic changes that infectious disease demands. I will be the first to admit that this survey has serious flaws, but many of its results align with existing knowledge about Cal Poly students and college students at large.

Several sections of this survey would have been more useful if their questions had been fleshed out more. The section on media habits could have taken more from its inspiration and asked respondents to assign a word indicating either belief or disbelief to a series of statements related to the pandemic. The politics section could have utilized more specific areas to ask questions in.

Ultimately, I realize that it would have been better to have streamlined this survey and limited the focus to only one area of inquiry. I was overly ambitious in designing this survey, and did not devote enough focus to fleshing out the questions I wanted to ask. And even if I had, the end result would have almost certainly been too cumbersome for most students and graduates to complete.

Still, this survey was an informative learning experience. Virtually nothing about this survey ended up how I wanted it to, from planning to data collection to analysis. And yet, through these failures, I have learned a lot about what I should and should not do in future surveys.

\textsuperscript{29} See "Works Cited" (Lazarus et al)
Works Cited


Mental health needs among lesbian, gay, bisexual, and transgender college students during the COVID-19
   https://doi.org/10.5812/jjcdc.104260


