

# University Safety Department

Survey Report

PRESENTED BY

Prem Narayanan Eric Payne Heidi Prior Megan West



# **Table of Contents**

Executive Summary	3
Background	3
Survey Design and Implementation	3
Key Findings	3
Summary of Recommendations	3
Introduction	4
Results	4
Part 1: General Safety Perceptions	4
Part 2: What does "safety" mean to members of the University community?	12
Part 3: What are University members' most important campus safety concerns?	13
Part 4: How satisfied are University community members with U Safety?	22
Survey Limitations	27
Recommendations	27
Appendices	29
APPENDIX A. Survey Methodology	29
APPENDIX B. Literature Review	32
APPENDIX C. Survey Items and Frequency Tables	34
APPENDIX D. Sentiment Analysis - R Code	43
APPENDIX E. References	46

# **Executive Summary**

#### **Background**

With many safety infrastructure changes occurring recently, representatives of the University Safety Department ("U Safety") partnered with Graduate students in a Survey Research Methodology course ("Survey Analysis Team") to gather information from current staff and students on how they perceive safety at the U. The purpose of the information gathered was to help guide community engagement programs and strategies, and measure changes in perceptions of safety over time.

#### **Survey Design and Implementation**

The Survey Analysis Team generated an online survey to distribute to the University's 30,000+ faculty and staff, and a sample of students. The survey was created in Qualtrics and was distributed by U Safety via University email (Umail). The survey was active for 18 days and composed of 24 questions. In total, 2,992 responses were completed (6% response rate). The survey aimed to answer three research questions:

- 1. What are University members' most important campus safety concerns?
- 2. How satisfied are University community members with U Safety?
- 3. What does "safety" mean to members of the University community?

#### **Key Findings**

Survey results indicate that respondents are most concerned about sexual assault and burglary, are the most wary of parking lots and structures, and feel particularly unsafe at night. Men feel safer than women on campus, and female students expressed the least amount of trust in University Police.

#### **Summary of Recommendations**

Three recommendations emerge from the survey results. First, communicate to the University community their options to access U Safety and its resources, including what kind of help is available to them by calling the U Safety Department. Second, U Safety should invest in more safety infrastructure including lights, security cameras, and security measures for building access. Finally, attend to the unique needs of those in U locations distant from the main campus, especially hospitals and clinics, downtown sites, and the Research Park area.

### Introduction

In 2018, the high profile murder of University of Utah student-athlete Lauren McCluskey sparked a movement to examine and overhaul campus safety. This incident prompted many structural and cultural changes within the University of Utah's campus safety system including the hiring of a Chief Safety Officer to increase campus safety transparency and the induction of Lauren's Promise, a pledge to take reports of sexual assault and domestic violence seriously, and to listen and believe those seeking help from it.

Two years later, police and safety establishments again dominated the news. 2020 saw public outcry against the institution of police due to high profile police killings of George Floyd, Breonna Taylor, and Elijah McClain, among others. Amidst the calls for justice were demands for police reform—and the reimagining of public safety as a whole—focusing on response-appropriate aid, transparency, and accountability.

In an effort to better understand a changing landscape, the University Safety Department partnered with University of Utah Survey Research graduate students to gather information on faculty and students' perceptions of the structural safety changes made by the University over the past few years and their current perceptions of safety on campus overall.

#### **Results**

# Part 1: General Safety Perceptions

#### Experience of safety at the University when compared to surrounding areas

When asked to compare safety at the U to surrounding areas, respondents overall considered the experience of safety at the University similar to the surrounding areas [Mean Score - 2.2, (More Safe=1, Unsure=2, Equally Safe=3, Less Safe=4)]. Based on mean scores segmented by gender, men (alone or in combination) were more likely than women to consider the U to be safer than surrounding areas. The mean score for men was 1.8 compared to the mean score of 2.3 for women. Not much difference was observed in mean scores when segmented by position at the university (university affiliation).

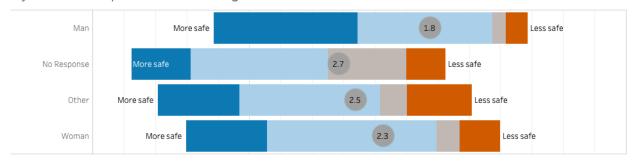
Figure 1.9: Experience of Safety compared to surrounding areas

(More Safe=1, Unsure=2, Equally Safe=3, Less Safe=4)

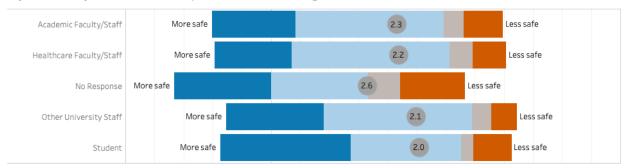
Compared to surrounding areas I think the U is:



By Gender - Compared to surrounding areas I think the U is:



By University Affiliation - Compared to surrounding areas I think the U is:



#### Perceptions of Safety by location and time of day

Survey respondents were asked how safe they felt at various locations on the U campus. Respondents were asked to rate the locations (Athletic facilities, Academic buildings, Library and Union, Outside walkways and streets, Parking lots and structures, Hospitals and Health Clinics, University Housing,Research facilities/Administrative Buildings) during the day and during the night. The ratings ranged from Very Unsafe to Very Safe. The distributions and the mean scores are shown in Figure 1.1 below:

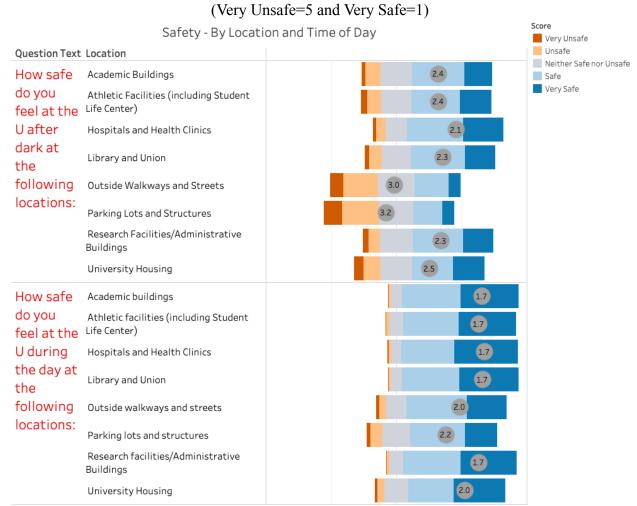


Figure 1.1 : Feelings of Safety by location and time of day - All Respondents

Overall, respondents rated "Outside Walkways and Streets" [Mean Scores 3.0 After Dark/2.0 During the day] and "Parking Lots and Structures" [Mean Scores 3.2 After Dark/2.2 During the day] as the campus locations where they felt least safe. The responses were skewed even further towards unsafe after dark. Academic buildings, athletic facilities, hospitals and research facilities were generally considered safe overall both during the day and after dark.

There was considerable difference in the way the locations were perceived based on respondents' gender identities. When safety perceptions are disaggregated by respondents' gender, data shows men feel safer than women across locations.

(Very Unsafe=5 and Very Safe=1) Score Safety - By Location and Time of Day Very Unsafe Unsafe Question Text Location Neither Safe nor Unsafe How safe Academic Buildings 1.9 Safe Very Safe do you Athletic Facilities (including Student Gender feel at the Life Center) [Alone or in combination] U after Hospitals and Health Clinics 1.7 (AII) Man dark at No Response Library and Union the Other Woman following 2.4 Outside Walkways and Streets locations: 2.5 Parking Lots and Structures Research Facilities/Administrative Buildings University Housing How safe Academic buildings do you Athletic facilities (including Student feel at the Life Center) U during Hospitals and Health Clinics the day at 1.5 Library and Union the following Outside walkways and streets locations: Parking lots and structures Research facilities/Administrative 1.6 Buildings 1.7 University Housing

Figure 1.2: Feelings of Safety by location and time of day - Men [Alone or in combination]

When filtered for responses only from men (alone or in combination), the most serious threat is still viewed to be "Outside Walkways and Streets" and "Parking Lots and Structures" after dark, but only slightly so. The mean scores for those two locations dropped down to 2.4 [Outside Walkways and Streets] and 2.5 [Parking Lots and Structures]. These same locations have a negligible skew towards being unsafe during the day as well.

(Very Unsafe=5 and Very Safe=1) Score Safety - By Location and Time of Day Very Unsafe Question Text Location Unsafe Neither Safe nor Unsafe How safe Academic Buildings 2.6 Safe Very Safe do you Athletic Facilities (including Student 2.6 feel at the Life Center) [Alone or in combination] U after 2.2 Hospitals and Health Clinics (AII) Man dark at 2.5 No Response Library and Union the Other Woman following Outside Walkways and Streets locations: Parking Lots and Structures Research Facilities/Administrative Buildings University Housing How safe Academic buildings do you Athletic facilities (including Student feel at the Life Center) U during Hospitals and Health Clinics the day at Library and Union the following Outside walkways and streets locations: Parking lots and structures Research facilities/Administrative Buildings University Housing

Figure 1.3: Feelings of Safety by location and time of day - Women [Alone or in combination]

When filtered for responses only from women (alone or in combination), the "Outside Walkways and Streets" and "Parking Lots and Structures" locations are considered to be much more of a threat to safety both during the day and after dark, but especially so after dark. The mean scores for those two locations after dark increased to 3.3 [Outside Walkways and Streets] and 3.4 [Parking Lots and Structures]. These same locations have a noticeable skew towards being unsafe during the day as well[ Mean scores 2.1 and 2.3 respectively].

Table 1.1 : Feelings of Safety by location and time of day

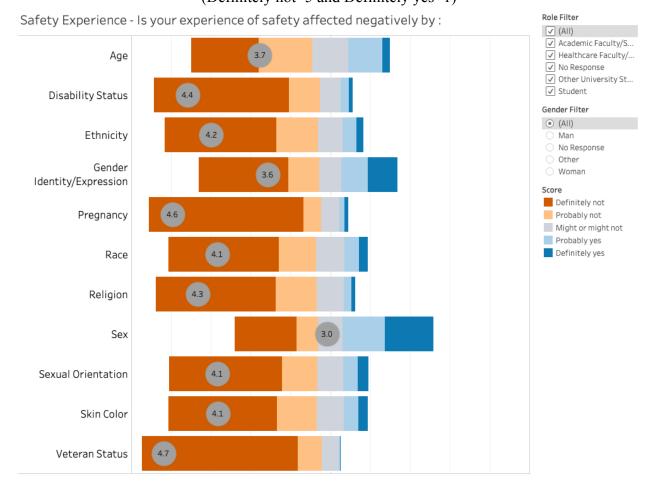
(Very Unsafe=5 and Very Safe=1)

Time of Day	Location	All Respondents	Men / [Diff from all]	Women / [Diff from all]
After Dark	Outside Walkways and Streets	3.0	2.4	3.3 0.3
	Parking Lots and Structures	3.2	2.5 <b>0.7</b>	3.4 <b>0.2</b>
During the day	Outside Walkways and Streets	2.0	1.8 0.2	2.1 <b>0.1</b>
	Parking Lots and Structures	2.2	1.9 0.3	2.3 <b>0.0</b>

## **Experience of Safety by demographics**

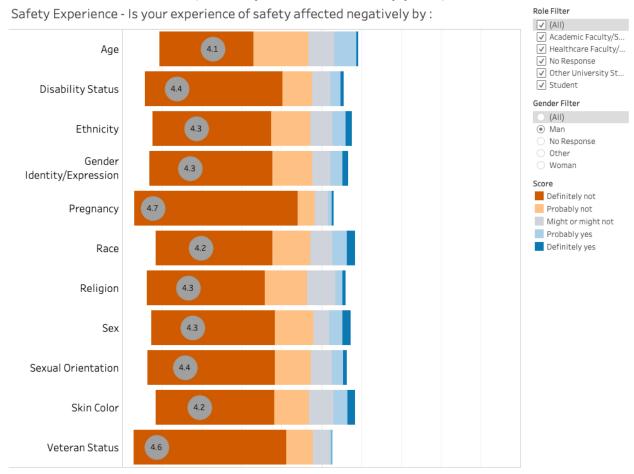
Respondents were asked to gauge if their experience of safety was affected by their demographic characteristics - Age, Disability status, Ethnicity, Gender Identity/Expression, Pregnancy, Race, Religion, Sex, Orientation and Skin Color. The lowest scores [implying a greater effect on safety] were received in the Sex [3.0], Gender Identity/Expression [3.6] and Age [3.7] overall. This indicates respondents felt most at risk due to their sex, gender identity, and age.

Figure 1.5 Experience of Safety by Demographics - All respondents (Definitely not=5 and Definitely yes=1)



When filtered for responses only from men (alone or in combination) respondent's Sex[4.3], Race [4.2] and Skin Color[4.2] were considered to have the most affect on safety, but only slightly so when compared to the other categories.

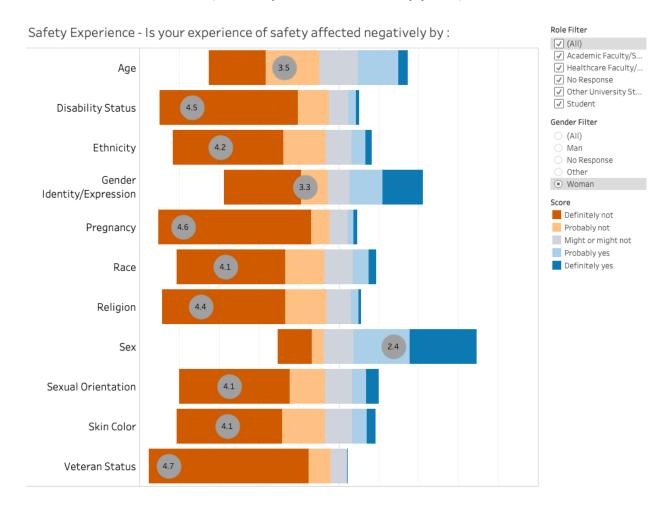
Figure 1.6 : Experience of Safety by Demographics - Men [Alone or in combination] (Definitely not=5 and Definitely yes=1)



When filtered for responses only from women (alone or in combination) Sex[2.4], Gender Expression[3.3] and Age[3.5] were considered to have the most affect on safety.

Figure 1.7: Experience of Safety by Demographics - Women [Alone or in combination]

(Definitely not=5 and Definitely yes=1)



Part 2: What does "safety" mean to members of the University community?

Survey respondents had the opportunity to comment regarding what safety meant to them in response to the open ended question "*What does safety mean to you?*" There were three common themes from the 1,578 answers:

#### THEME ONE: FEELING COMFORTABLE AND PROTECTED

A high frequency of responses included descriptions of wanting to be able to "walk" and "freely move" around campus. Respondents do not want to have to think about their individual safety, and want to "feel comfortable on campus". Responses repeatedly mentioned feeling safe at

night. "Being able to be anywhere on campus by myself, day or dark and feel comfortable" was a repeated concept.

# THEME TWO: NO FEAR OF THREATS OR HARM TO PHYSICAL SAFETY AND PROPERTY

Safety to respondents meant not wanting to feel afraid on campus. This included living without worry and fears, and having a feeling of comfort and protection. Respondents want their person and personal property to be safe. Two such individuals wrote "not worrying about loss or damage to person or possessions" and "Being able to go about my business without fear of accidents, violence or intimidation". Community members expressed a desire to know that it is safe to move around campus, specifically in crosswalks and through parking lots, and when alone.

University members, specifically 38% of healthcare faculty and staff, 30% of other University staff, 33% of academic faculty and staff, and 28% of students would like to see a higher presence of University police and security. Respondents want to feel confidence in the safety and services provided by members of the University police force.

#### THEME THREE: SECURITY MODES OF INFRASTRUCTURE

The infrastructure of safety was a repeated theme among respondents. Specifically, community members desire adequate lighting along sidewalks and in parking lots, as expressed by "Good lighting for dark spaces and cameras, emergency access, and good access to the security available". Respondents want to feel safe in campus buildings, office buildings, hospitals, clinics and personal offices on campus.

# Part 3: What are University members' most important campus safety concerns?

To investigate what are community members' most important campus safety concerns, the survey asked respondents to select their greatest concerns from a list of twelve options, allowing them to choose multiple answers. Figure 3.1 shows the percentage of respondents that selected each concern. "Burglary/theft," "Sexual Assault/Date Rape," "Violent Attack," and "Gun Violence" were the most common responses.

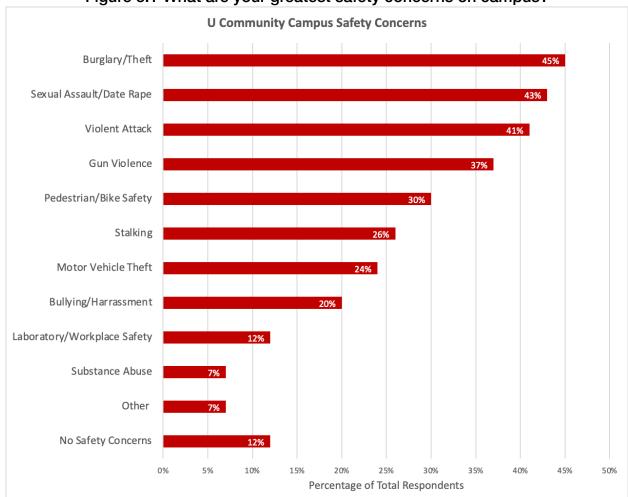


Figure 3.1 What are your greatest safety concerns on campus?

When responses were disaggregated by position on campus, students (graduate and undergraduate), academic faculty and staff, health faculty and staff, and other university staff all identified the same top four safety concerns, though in different orders (see Table 3.1). It is important to note that student respondents reported concern about sexual assault/date rape at a higher rate than any of the other groups. 59% of students were concerned about sexual assault and date rape, compared to 43% of health faculty and staff and 41% of academic faculty and staff and other university staff. Another noteworthy difference between these three groups is their level of concern about gun violence. Academic faculty and staff show the highest rate of concern, with 44% of respondents indicating it is one of their greatest concerns, compared to 39% of students, 37% of other university staff, and 33% of health faculty and staff.

Table 3.1 Top 5 Safety Concerns by Position on Campus

Students	Academic Faculty and Staff	Health Faculty and Staff	Other University Staff
#1 Sexual Assault/	#1 Burglary/Theft	#1 Burglary/Theft	#1 Burglary/Theft
Date Rape 59%	45%	46%	44%
#2 Burglary/Theft	#2 Gun Violence	#2 Violent Attack	#2 Sexual Assault/
45%	44%	45%	Date Rape 41%
#3 Violent Attack	#3 Violent Attack	#3 Sexual Assault/	#3 Gun Violence
45%	42%	Date Rape 43%	37%
#4 Gun Violence	#4 Sexual Assault/	#4 Gun Violence	#4 Violent Attack
39%	Date Rape 41%	33%	34%
#5 Stalking	#5 Pedestrian/Bike	#5 Motor Vehicle	#5 Pedestrian/Bike
38%	Safety 34%	Theft 28%	Safety 34%

Respondents were also asked "What would make you feel safer at the U?" Respondents most often suggested "Better Physical Security Infrastructure (lighting, security cameras, emergency blue lights, etc.)," with 64% of all respondents selecting that option. This preference was supported by text entries accompanying the selection of "other," a majority of which detailed infrastructure improvements. "Other" text entries are discussed later in this report. Table 3.2 lists the overall frequency of the seven answer choices.

Table 3.2 What would make you feel safer at the U? (n=2,992)

Choice	Frequency	Percent
Better Physical Security Infrastructure (lighting, security cameras, emergency blue lights, etc)	1928	64.4%
Knowing What Safety Options Are Available	965	32.3%
Increased University Police Presence	973	32.5%
Increased Unarmed Security Presence	922	30.8%
More Advertisement of Safety Services	575	19.2%
Other	375	12.4%
I don't frequent the main campus	416	13.9%

When students, academic faculty and staff, health faculty and staff, and other university staff responses are compared, differences become apparent in respondents' preferences for infrastructure improvement, increased police presence, and increased unarmed security presence (see Figure 3.2). Students were the most likely to indicate that better security infrastructure would make them feel more safe. Student rates were ten percentage points higher than health faculty and staff in this area.

Health faculty and staff were the most likely to state that an increased police presence would make them feel safer. 38% of health faculty and staff selected this option compared to 33% of academic faculty and staff. Only 28% of students preferred increased police presence, ten percentage points lower than health faculty and staff.

Though health faculty and staff were most likely to prefer increasing police, they were least likely to favor increasing unarmed security. Only 29% of health faculty and staff indicated that increasing unarmed security would make them feel safer, compared to 32% of students and 35% of academic faculty and staff.

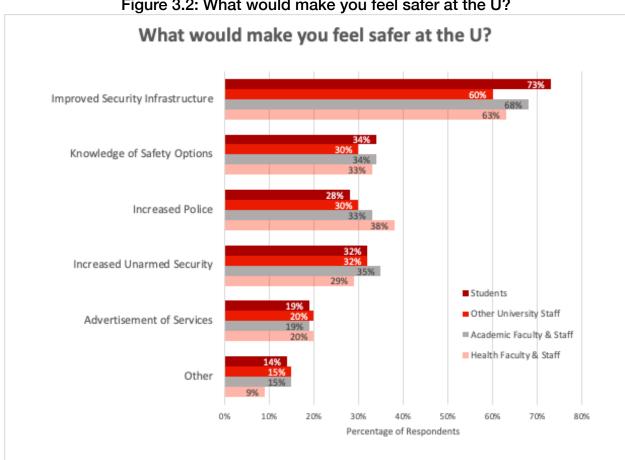


Figure 3.2: What would make you feel safer at the U?

#### **TEST ENTRY RESPONSES**

Respondents had two opportunities to provide qualitative feedback about safety concerns and potential improvements. After rating their feelings of safety across a variety of campus locations before and after dark, respondents were asked "If you have comments about safety at a location not listed above, please comment below." Additionally, when asked "What would make you feel safer at the U?" respondents had the option of selecting "Other" and utilizing a text entry box.

Through both of these methods, respondents submitted 749 comments. Entries detailed what campus features and locations caused individuals to feel unsafe and what potential improvements could increase their feelings of safety. The overarching themes of 573 of these comments are described below.

#### **Qualitative Feedback Overarching Themes:**

"If you have comments about safety at a location not listed above, please comment below." and "What would make you feel safer at the U?"

**Lighting Improvements:** Respondents felt unsafe on campus in poorly lit areas, especially parking lots, parking structures, and some walkways. In some of these areas lighting has been installed but does not function, especially due to construction. Respondents appreciate emergency blue lights with call buttons and requested the installation of more units. Specific dark areas listed included President's Circle, Pioneer Theater, William Stewart Building, Eccles Outpatient Clinic, Language and Communications Building, Carolyn Tanner Irish Humanities Building, Imaging and Neuroscience Center, 375 Chipeta Way, Merrill Engineering Building, Fraternity Row, Williams Building and Research Park.

"There are still paths between buildings and parking lots that are not well lit. Consider motion-activated lights to cut down on light pollution, but maintain safety."

**Fear Accessing Parking:** Many respondents travel long distances on foot from parking lots to other destinations at the U. These commutes feel especially unsafe before and after daylight hours. Respondents suggested adding lighting, adding a security presence or patrolling parking lots, and making parking lots adjacent to campus buildings free in the evenings. Respondents who utilize buses and TRAX to travel to the U also noted feeling unsafe waiting at bus and TRAX stops and walking between them and campus buildings.

"A lot of students, like myself, cannot afford a parking pass, therefore having to use a place like guardsman pass for parking. This is a minimum 15 minute walk for myself. Given winter is coming, by the time I leave class, it is pitch black making me feel extremely unsafe when returning to my car. MAKE PARKING ON SITE FREE AFTER DARK."

**Sidewalk Safety:** Many respondents felt unsafe traveling on campus walkways due to the presence of fast moving skateboards, bikes, scooters, and motorized vehicles. Respondents also fear being hit by speeding cars when crossing streets. Comments advocated for greater

enforcement of rules regarding vehicles on the sidewalk, ticketing cars for speeding, and lighting crosswalks.

"There are frequently people who are on bicycles and especially skateboards moving extremely fast (too fast to make a quick stop) who zip past me either on the walkways or in the parking lot. I personally know a professor who was knocked down by skateboarders, hospitalized for his injuries, and who never fully recovered from the incident. This is very concerning."

"Some crosswalks are not well-lit. When it is dark, pedestrians on Wasatch outside of PCH and to the south are hard to see from a car. In the mornings, speed limit signs on Mario Capecchi are purely decorative..."

**Police and Security:** Many respondents commented on police and security officers. Generally, respondents indicated they rarely encounter U Police or Campus Security Officers. Comments were split between requests for increased police and security, adamant opposition to increases in police presence, and calls for changes in how officers are trained and interact with community members. These differences in opinion are largely correlated with a respondent's position at the U and are further discussed later in this report.

"I feel like I never see security outside when walking to my car. If something were to happen, there is no place to go for help or call for help, and I never see cops or security."

**Building Access:** Respondents felt safer when access to buildings was restricted either by security or a keycard access system. Respondents felt unsafe when buildings were unlocked and anyone was allowed to enter, especially at night. Several respondents felt discomfort around being alone in buildings when cleaning crews arrived, especially in women's locker rooms. These concerns were reported mainly by academic faculty staff and other university staff.

"It would be nice if all the buildings would be secured still. I would rather use my badge to get in the building vs some person who doesn't belong roaming the building.

Americans seem to be angry this year."

**Safety in numbers:** A prominent theme was that respondents felt safest when lots of other people were present in an area. When respondents sensed they were alone, especially after dark, they felt less safe.

"I generally feel safe at most academic buildings during night, however there are a few buildings I would not feel very safe at. For instance, I would not feel safe at Einar Nielson Fieldhouse or any academic building that is very empty, which is most buildings. I would however feel safe at the Business School, since there are always people in that building."

**Gun Safety:** The majority of comments regarding guns requested that they be banned at the U, though several respondents advocated for increasing the presence of firearms on campus. Academic faculty and staff were most concerned about guns on campus and overwhelmingly favored banning them.

"I'm always afraid of an active shooter given the fact that we allow concealed weapons on campus. It's extremely stressful to worry about as a faculty member, especially because our security is not great in the Law School building. All of the offices and many classrooms have glass doors so any shooter can see in and it would be nearly impossible to hide."

**Security Cameras:** Respondents appreciate security cameras, as both a deterrent to perpetrators and a means to identify them. They desire that more cameras be installed at the U.

"... multiple personal items as well as items belonging to the University were stolen from my truck. University Police were promptly responsive and took a report but unfortunately we were told by police as well as security that there are no cameras in this parking garage. I believe that statistics show a high percentage of assaults and robberies take place within parking garages. That being said, I feel that no cameras in such a location, especially given the recent assaults on campus including deaths, is a gross oversight by security and very concerning. Especially as this is a pay lot for guests..."

**Homeless Presence**: Individuals experiencing homelessness congregate near several U buildings, especially those located downtown and distant from the main campus. The presence of these people made respondents feel unsafe and they desire a regular security presence to manage homeless gatherings. Specific areas mentioned included downtown, Tower 102, Tower 250, Park Building and the Union Building. These concerns were mainly reported by health faculty and staff and other university staff.

"The 250 Tower is not safe for University employees due to the homeless camps and substance abuse that exist on the surrounding blocks. I have been spit at, challenged to fight/followed, had items thrown at me, people exposing their genitals, there are IV needles, human feces, towels and paper that has been used to wipe feces and blood."

**Winter Conditions:** Icy walkways on campus create unsafe conditions for pedestrians during the winter.

"After a snow storm wish you had shoveled the sidewalks to the building faster--thanks."

**Ineffective Escorts:** Academic faculty and staff and Health faculty and staff desire increased transportation services, including shuttles, rides, and courtesy escorts. Respondents reported that existing escort services require long waits, and women feel unsafe riding alone in vehicles with male drivers.

"If I require an escort to my vehicle I have to wait until someone from the Main hospital comes over to the Craig H. Neilsen Rehabilitation hospital. I can't always wait that long. I often will ask the valet to drive me to my car for that reason, but if they're not available I will walk by myself because there aren't escorts readily available at Craig H. Neilsen."

**Overgrown Foliage:** Other University Staff and Health faculty and staff requested that foliage along bike paths and near building entrances be trimmed to prevent bike collisions and prevent

perpetrators from hiding in order to assault others. Specifically, comments mentioned removing low tree branches, and maintaining a flowering plant between buildings 48 and 79.

"Yes, there needs to be some tree trimming for the lower branches or canopy. This can be a hiding spot for individuals that may be on campus to perform bad deeds."

**Safety:** A considerable number of comments stated that respondents already felt safe on campus. These comments were submitted mostly by academic faculty and staff and other university staff. "I guess I feel safe most of the time on campus but recognize that feelings are subjective and may not be rational. Safety can always be improved and I would support most or all of the measures described below to improve safety on campus."

Though the majority of free response comment themes were present across multiple campus position groups, several safety concerns were unique to members of just one position. Though these themes were reported less frequently than the themes listed above, they are included below in an effort to accurately represent the perceptions of unique campus groups.

#### THEMES UNIQUE TO ACADEMIC FACULTY AND STAFF

**No Consequences:** Academic faculty and staff respondents desire increased accountability and consequences for community members guilty of harassment, assault, stalking, and rape. Comments convey a perception that the U tolerates these behaviors and consequences for past incidents have been slight or nonexistent.

"Removal of staff members who commit stalking and sexual harassment offenses (would make me feel safer at the U)"

**USafety Transparency:** Academic faculty and staff desire greater transparency from U Police and better communication concerning criminal activity on campus.

"Continued complete transparency about all criminal safety issues for the entire campus! (would make me feel safer at the U)"

#### THEMES UNIQUE TO HEALTH FACULTY AND STAFF

**Aggressive Patients:** Health faculty and staff report increasing numbers of aggressive patients at health care facilities and insufficient support to deal with them and keep staff safe.

"As an ICU nurse I never feel safe at the hospital. Staff members are constantly physically and verbally abused by patients and families and nothing is done. Patients should be charged with assault of a healthcare provider when they do this. It's unacceptable and is swept under the rug far too often. Same does for racist and/or homophobic patients an families. I've been in numerous situations where a patient is being physically aggressive and security has been called and done nothing but stand outside the room and watch . . ."

#### THEMES UNIQUE TO STUDENTS

**Fraternities:** Students reported inappropriate and criminal behavior by members of fraternities and advocated for banning them at the U.

"Fraternities. I have been given lists of frats to avoid because girls constantly get drugged raped at their parties. Catcalling is also a big issue with the frats."

**False Accusations:** Students expressed concern about being falsely accused and presumed guilty by campus authorities. More security cameras were suggested as a preventative measure.

"I feel as though the U of U has an environment where I am unprotected against false claims, which leads me as a male to feel unsafe in areas where witnesses can't vouch for my actions..."

Table 3.3 Approximate Frequency of Themes in Text Entry Responses

Table 3.3 Approximate Frequency of Themes in Text Littly nesponses						
	Academic Faculty/ Staff (n=258)	U Health Faculty/ Staff (n=235)	Other U Staff (n=165)	Undergrad. Students (n=57)	Graduate Students (n=34)	Total
Lighting improvements	46	40	28	7	4	125
Fear Accessing Parking	15	65	11	5	8	104
Sidewalk Safety	36	21	19	4	5	85
Police and Security	20	21	20	8	4	73
Building Access	21	5	6	1	0	33
Safe	8	3	16	2	3	32
Safety in Numbers	16	4	4	1	2	27
Gun Safety	11	4	1	1	1	18
Security Cameras	3	5	4	2	1	15
Homeless Presence	0	7	6	1	0	14
Winter Conditions	2	2	3	2	1	10
Escorts	4	6	0	0	0	10
Overgrown Foliage	0	3	3	0	0	6

Other themes	No Consequenc es (7) U Safety Transparen cy (4)	Aggressive Patients (5)		Fraternities (3) False Accusations (2)		21
Total Comments	193	191	121	39	29	573

Total Comments differ from the n value for each category because comments that did not address the questions, expressed a lack of knowledge, or were unique from all other comments were eliminated from analysis.

## Part 4: How satisfied are University community members with U Safety?

Out of the 2,985 people who answered the survey question "*Have you interacted with the University Police in the past 12 months?*" 710 people, a total of 24% of respondents, answered yes. Those respondents then rated their satisfaction in the interaction with University police.

How satisfied were you with the interaction?

0 50 100 150 200 250 300 350 400

Very Satisfied

Some what Satisfied

Neither Satisfied or Dissatisfied

Very Dissatisfied

Figure 4.1: How satisfied were respondents with police interaction?

Of the 710 people, 72% were very satisfied or somewhat satisfied. 15% of respondents were neither satisfied or dissatisfied and 12% were somewhat dissatisfied or very dissatisfied. The respondents have a mix of roles at the University.

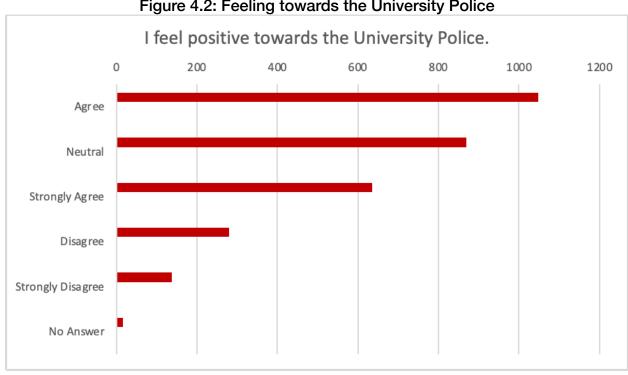


Figure 4.2: Feeling towards the University Police

Overall there wasn't a large difference in the levels of trust of the University police based on a respondent's position at the University. 1,624 (54%) respondents trust the University police, 902 (30%) have neutral feelings of the police, and 444 (15%) respondents do not trust the police.

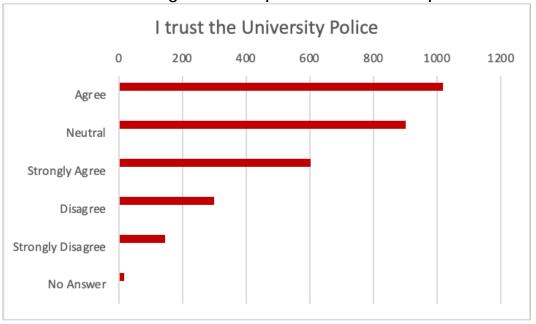
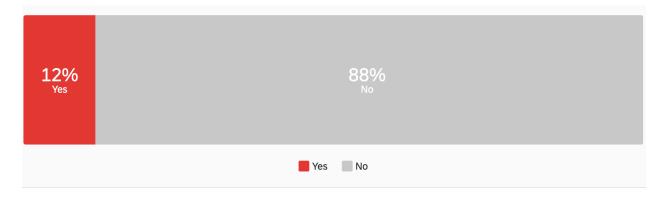


Figure 4.3: Respondent's trust of the police

To explore the degree in which respondents may have been hesitant to contact U Safety, the following question was asked: *Have you ever been in a situation that warranted contacting the U Safety Department, but you chose not to?* The majority of respondents (88%) expressed that they either called U Safety when needed or were not in a situation that needed a safety response.

Figure 4.4: Have you ever been in a situation that warranted contacting the U Safety Department, but you chose not to?



Respondents who answered yes to this question were directed to a follow up question in which they could input a text response: *Please tell us more about why you chose not to contact the U Safety Department*. Respondents that provided qualitative feedback mostly communicated five themes:

**Unsure if calling U Safety was appropriate -** Respondents questioned whether the situation they were in was important enough to call U Safety, were persuaded not to call U Safety (either by fear of backlash or being convinced it was no big deal), or the respondents were ashamed and embarrassed.

"I didn't want to seem like I was overreacting. Someone was following me on campus late at night by the Art building on my way to the parking lot at the library. I wanted to ask for an escort but thought I was walking anyway and was probably almost there. I didn't want to make a big deal about it. Maybe that person wasn't trying to follow/stalk me." "The situation was downplayed by those around me and made me feel that it was of little importance."

Felt calling U Safety would not help or resolve the situation - In these cases, respondents either speculated or drew from past experience that nothing would come of calling U Safety; someone would either not show up, fail to take the respondent seriously, or do the bare minimum and leave the situation unresolved.

"I don't trust the police to do more than file reports. We had a theft at the campus store and they refused to come see the perpetrators. They just wanted to do the bare minimum."

"Because it's the same old story. Women aren't believed when they are assaulted nor is anything really truly done. Very rarely is anyone held accountable for harassment, and

assault on campus. It's a joke. The system is broken and it definitely doesn't work for women nor people of color."

**Worried University Police would make the situation worse** - These respondents expressed concern with police involvement, feeling as though police would escalate the situation rather than de-escalate.

"Two instances. First was when someone else was in a mental health crisis. As a crisis specialist, I think that introducing police into the situation almost always does more harm than good, and the person undergoing the crisis did not want to talk with police. Second was a person who I believe to have been homeless was yelling profanities and causing a disturbance. Others asked me to call police, but I talked to the person and helped them find a place to take care of their needs, rather than risk them being harassed and arrested."

"Domestic violence situation in 2013. Investigator was very helpful but the cops said that someone would be arrested if they were called again. This made me, the wife in the domestically violent marriage more afraid to reach out. U police need more domestic violence training."

**Concerned about wait times** - Respondents spoke about waiting a long time for a response to a call to U Safety or long wait times for a safe escort.

"They did not respond for more than 3 hours last time I called."

"Working late and wanted escort to walk to car - waited 45-50 mins - so went ahead and walked alone."

**Did not know who or how to contact -** Some respondents mentioned that they weren't immediately aware of the right number to call.

"Not immediately aware of contact information (not stored in my cell phone...)"

"Was not sure what phone # to call, and nobody answered the phone #s that I was able to find. I just got frustrated, and then I gave up."

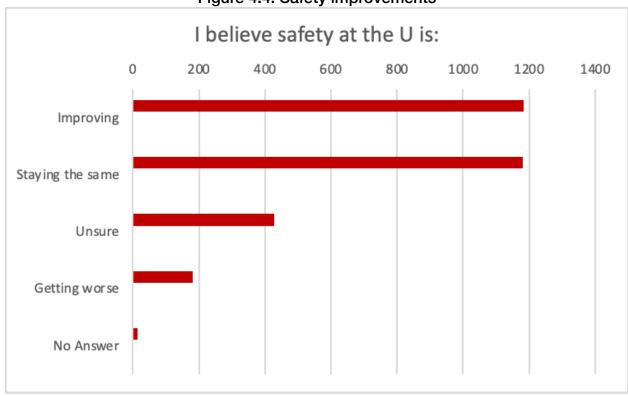


Figure 4.4: Safety improvements

Overall people felt that safety at the U was staying the same (1,180 responses) or improving (1,183 responses). 80% of all respondents did not feel that safety was getting worse, or did not have an opinion.

# **Survey Limitations**

The main limitation of the survey is the low response rate (6%). A few factors could have contributed to this. First, the survey was active for just over two weeks, and a reminder email was sent late in the period in which the survey was active. Second, the survey was automatically filtered into the "Other" folder in participants' Umail inbox, instead of the default "Focus" folder. Having to navigate away into a separate tab could have kept participants from seeing the survey.

In this study, representativeness cannot be accurately assessed given the low response rate across all groups surveyed. All faculty, staff, and students are underrepresented in the data, but especially students, given their responses account for just 1.8% of the total student population. Nevertheless, response data can provide insight into further topics and trends to explore in future campus safety research at the University of Utah.

## **Recommendations**

Survey responses show on average that University community members are satisfied with their experience of safety at the U and with the University Police. People who are not satisfied expressed what would make them feel more safe at school and work at the U. Based on the analysis of qualitative and quantitative findings, three recommendations for improving safety at the U emerged.

#### 1. Communicate clear pathways for accessing resources

Respondents were asked if they had been in a situation that warranted contacting U Safety, but chose not to .12% of respondents chose not to contact U Safety and were asked why. The majority of people did not reach out for help because they believed it would not help and they were unsure if calling would solve their issue. Educating the U community about resources and services U Safety provides would bring clarity for when contacting the department would be appropriate. Examples would be advertising contact information for U Safety divisions, adding training as a required online course students and staff must complete annually, and communicating what the six divisions of the department are, what they offer and when people should contact a division.

Respondents want to know how to get a hold of security quickly and have emergency access. An option to increase access to security and safety could be utilization of an existing University app or phone number. This could be useful for people on campus, at offsite locations, research park, and in the hospital setting. The app could link the person to the University police, security division, crisis team, or to a virtual escort to safely get from point A to point B.

#### 2. Update infrastructure

A few specific updates were mentioned by respondents in the response sections of the survey. In order to make people feel safer while walking alone, requests were made to add lighting around the U. Updating the lighting around campus and clinics, in parking lots, along sidewalks, and updating the areas that may not be as well lit where students, staff and faculty frequently walk. Prioritizing the safety of the paths pedestrians use getting to and from parking areas with more lighting. Respondents mentioned the long walks they take in the dark early in the morning and later in the evening when people are not around.

Another request was to increase the visibility of the pedestrians crossing busy intersections especially near the hospital parking lots and in research park. Many responses mentioned how they feel that people do not follow the posted speed limits and disregard the crosswalks and warning lights currently in place.

#### 3. Attend to the unique needs of specific University community groups

The survey respondents included varying faculty, staff, and students who have unique needs beyond what is provided on the main campus. The high response rate from health faculty and staff and their comments communicate that they are very concerned about safety and security while at work. The hospital faculty and staff want more security to deal with aggressive patients. These respondents often access distant parking alone in the dark (night shifts, early morning shifts).

Research Park and Downtown employees were two groups that raised alarm bells in their comments as well. Research park respondents have traffic concerns including minimal sidewalks, crosswalks, lighting and have to run across busy icy streets to reach parking lots. The U buildings downtown are dealing with increased congregating of homeless populations near their entrances. Attending to these groups' unique needs would help alleviate some of the survey safety concerns. To hone in on each of the individual groups' needs, it may be worth directing additional surveys to specific groups, one group at a time.

# **Appendices**

# **APPENDIX A. Survey Methodology**

#### **SURVEY PROCESS**

The U Campus Safety Survey was designed by University of Utah graduate students enrolled in a Survey Research Methodology course in Fall of 2021, overseen by Dr. Lori Kowaleski-Jones. The graduate student survey team began by meeting with representatives from the University Safety Department to discuss research goals and formulate baseline questions for a pretest survey.

After pretesting a subset of questions with other students in the Survey Research Methodology class, a full set of survey questions was created, including demographics. The University Safety Department was updated on survey progress and were invited to contribute additional feedback based on the pretest. Incorporating the pretest data and the contributions from the University Safety Department, a second progress report was provided along with a cover letter to distribute with the final survey.

The survey was launched on October 27, 2021, and remained open until November 13. Initially, the survey was scheduled to close on November 10 (two weeks after launch date) but due to a significant drop in responses after the first week, a reminder email was sent on November 10 via the Office of the Chief Safety Officer, resulting in nearly 900 more responses. The survey link was sent in error as a preview version of the survey but this error did not compromise how the responses were recorded, or the data contained therein.

#### **SURVEY DESIGN**

The survey was created using the online survey and analysis program Qualtrics, with 24 questions, two of which were accessible using skip logic prompting further elaboration if specific answers were recorded. The survey was divided into 4 sections (including a demographics section) which aimed to answer the three research questions. Demographic questions were drawn from the University of Utah's Campus Climate Survey from June 2020 as a baseline and incorporated feedback from the University Safety Department representatives.

Respondents were asked about their feelings of safety on U campuses based on a variety of factors including time of day, location around campus, and their physical attributes such as gender identity and race. They were also asked about their most important safety concerns, experiences with U Safety in the past, and impressions of University Police. Every respondent was also invited to explain what safety meant to them via an open ended text response. The survey was anonymous and no individually identifiable respondent information was collected. The majority of data collected was quantitative but some questions allowed respondents to

answer with qualitative data as well. While a full analysis of the qualitative data lies outside the scope of the study, The survey team identified key trends and themes based on this data, which are discussed in the Executive Summary of this paper. Full qualitative response data will be provided to the University Safety Department for further analysis.

#### **PARTICIPANTS**

The U Safety Department desired input on opinions of campus safety from students, faculty and staff. All University faculty and staff with an active Umail account were surveyed along with a sampling of students. The U Safety Department advised the Survey Analysis Team to sample students instead of surveying the entire student body to avoid survey fatigue in students. In total, the survey was sent to 50,333 Umail accounts, and 691 came back undeliverable. According to the Office of Budget and Institutional Analysis, student enrollment from end-of-term in Spring of 2021 was 32,643. This translates to about a third of students (30%) in the sampling frame compared to the target student population. A full breakdown of those surveyed can be found below:

Table 5.1 Sample Frame count by position at the University

<b>Health Sciences Faculty</b>	2,341
U of U Hospitals and Clinics employees	13,509
Main Campus employees	24,661
Sample of Students	9,822
Emails undeliverable	-691
TOTAL:	49,642

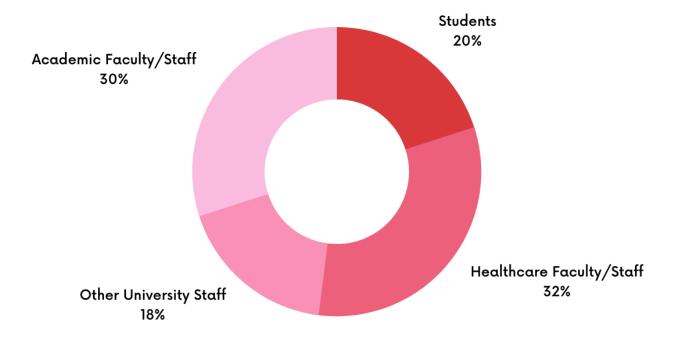
The sample breakdown in Table 5.1 was separated by position at the University of Utah. Those roles were not identical to the answers available in the survey question "what is your role at the University?" Due to this, some coding of the responses was completed. For example, "Health Sciences Faculty" and "U of U Hospital and Clinics Employees" were considered "Health Faculty and Staff" and "Main Campus employees" were considered "Academic Faculty and Staff" or "Other University Staff" for the purpose of this report. This question also allowed for multiple answers, as a respondent might have multiple roles.

Table 3.2 - Response Count by position at the University

Students	607
Healthcare Faculty and Staff	1,053
Academic Faculty and Staff	1,015
Other University Staff	609

The survey had 2,992 responses out of a possible 49,642 which gives a total response rate of 6%. Response rates from faculty and staff groups and students were similar, but since students only made up 20% of the sample frame, faculty and staff responses compose a majority of the data.

Figure 5.1 - Sample responses by position at University



#### **APPENDIX B. Literature Review**

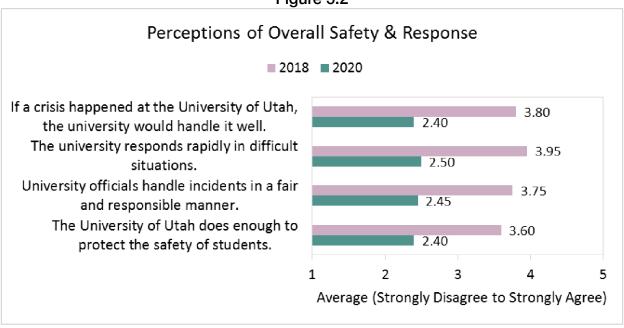
The University Safety Department—formerly the Department of Public Safety—restructured its operation in 2019 by hiring a Chief Safety Officer (CSO) and creating six operational divisions that report directly to the CSO in the hopes to reflect a more holistic approach to safety at the University of Utah. These six divisions are: University Police, Community Services, Campus Security, U Health Security, Emergency Management, and Emergency Communications. This department serves the over 70,000 students, faculty, and staff that rely on a safe environment to work, study, research, and live on campus grounds at the U.

Campus safety is a widely studied topic at the macro and micro level. In addition to specific institution data, the U.S Department of Education provides tools to gather data around campus safety via a downloadable Campus Safety and Security Survey. Findings reveal that nationwide, only 28.7% of college students feel safe and have no safety concerns, while those who were worried about safety had a variety of concerns. 9.7% of students reported "Theft/Robbery" as their primary safety concern and 2.1% reported "Sexual Assault/Date Rape" as their primary safety concern (College Stats, 2019).

Research shows that women are particularly vulnerable to safety incidents on college campuses, especially sexual assault, given that 1 in 4 college women are the victim of rape or attempted rape. (Fisher, et al., 2000). This pattern holds steady when looking at University of Utah crime statistics. "Burglary", "Fondling", and "Rape" were the top 3 criminal offenses on University of Utah campuses in 2019 and there were 109 reported instances of VAWA (Violence Against Women Act) crimes that same year. VAWA crimes include domestic violence, dating violence, and stalking. (Campus Safety and Security, 2019).

The University of Utah's 2020 Campus Climate survey conducted by the Assessment, Evaluation, and Research Department compared 2018 campus climate data to 2020 data regarding "Perceptions of Overall Safety and Response." The data shows declining confidence in campus safety services (see figure 5.2). The report mentions that the murder of student-athlete Lauren McCluskey occurred shortly after the 2018 data was collected and may be reflected (at least partially) in the 2020 numbers. (Canning et al., 2020)





# **APPENDIX C. Survey Items and Frequency Tables**

Q1. How safe do you feel at the U *during the day* at the following locations:

	Very Safe*	Safe	Neither Safe nor Unsafe	Unsafe	Very Unsafe	Total Responses*
Athletic Facilities	43.9%	42.7%	10.2%	2.5%	0.7%	1,386
Academic Buildings	44.2%	45.1%	8.7%	1.3%	0.6%	2,154
Library and Union	45.3%	44.1%	8.4%	1.7%	0.6%	1,988
Outside Walkways and Streets	30.3%	46.4%	15.8%	5.3%	2.2%	2,770
Parking Lots and Structures	24.5%	42.1%	21.4%	9.0%	3.1%	2,823
Hospitals and Health Clinics	49%	40.5%	7.6%	2.1%	0.7%	2,631
University Housing	39.6%	34.8%	18.4%	5.2%	2.0%	897
Research Facilities/ Administrative Buildings	42.9%	44.0%	10.4%	2.0%	0.8%	2,056

<sup>\*</sup> Percentages listed represent the percent of respondents who visit the listed area. Respondents who selected "Not Applicable" are not included.

#### Q2. How safe do you feel at the U *after dark* at the following locations:

	Very Safe*	Safe	Neither Safe nor Unsafe	Unsafe	Very Unsafe	Total Responses*
Athletic Facilities	24.0%	37.3%	23.2%	10.5%	5.1%	1,299
Academic Buildings	21.1%	40.2%	24.2%	11.4%	3.2%	1,960

<sup>\*\*</sup>Total responses vary because respondents who selected "Not Applicable" are not included.

Library and Union	23.3%	41.3%	22.7%	9.3%	3.4%	1,747
Outside Walkways and Streets	9.2%	25.6%	28.5%	26.4%	10.4%	2,665
Parking Lots and Structures	9.2%	22.5	25.9%	28.5%	14.0%	2,716
Hospitals and Health Clinics	30.7%	42.8%	16.8%	7.0%	2.7%	2,431
University Housing	23.7%	31.6%	24.3%	13.1%	7.3%	861
Research Facilities/ Administrative Buildings	23.3%	39.0%	24.6%	9.0%	4.0%	1,814

Q3. If you have comments about safety at a location not listed above, please comment below.

Q4. What would make you feel safer at the U? (Selected Choice, Multiple Response) (N = 2987)

	Frequency	Percent
Better physical security infrastructure (lighting, security cameras, emergency blue lights, et.)	1926	64.5%
Knowing what safety options are available	964	32.3%
Increased University Police Presence	970	32.5%
Increased Unarmed Security Presence	922	30.9%
More advertisement of Safety Services	575	19.3%
Other (with text entry)	2632	88.1%
I don't frequent the main cam	416	13.9%

Q5. Is your experience of safety at the U negatively affected by your: (N = 2987)

	Definitely Yes	Probably Yes	Might or Might Not	Probably Not	Definitely Not
Age	3.7%	17.3%	17.8%	27.1%	34.1%
Disability Status	1.9%	4.3%	10.5%	15.6%	67.7%
Ethnicity	3.6%	6.9%	12.6%	20.7%	56.2%
Gender Identity/ Expression	15.0%	13.3%	10.9%	15.5%	45.2%
Pregnancy	1.8%	2.7%	9.0%	9.1%	77.5%
Race	4.3%	7.5%	14.0%	19.0%	55.2%
Religion	1.8%	3.9%	13.7%	20.7%	59.9%
Sex	24.5%	21.1%	12.8%	10.5%	31.2%
Sexual Orientation	5.5%	7.2%	13.0%	17.9%	56.5%
Skin Color	4.6%	7.2%	13.8%	19.8%	54.6%
Veteran Status	0.5%	0.6%	8.3%	12.3%	78.2%

# Q6. What are your greatest safety concerns at the U (choose all that apply)? (N = 2987)

	Frequency	Percent
Bullying / Harassment	585	19.6%
Burglary / Theft	1,336	44.7%
Gun Violence	1,123	37.6%
Laboratory / Workplace Safety	349	11.7%
Motor vehicle Theft	705	23.6%
Pedestrian / Bike Safety	884	29.6%

Sexual Assault / Date Rape	1,286	43.1%
Stalking	784	26.2%
Substance Abuse	222	7.4%
Violent Attack	1220	40.8%
No Safety Concerns	367	12.3%
Other (Text Entry)	206	6.9%

## Q7. Compared to surrounding areas, I think the U is: (N=2973)

	Frequency	Percent
More Safe	931	31.3%
Equally Safe	1,485	49.9%
Less Safe	357	12.0%
Unsure	200	6.7%

## Q8. What does safety mean to you? (Text Entry)

#### Q9. I believe the safety at the U is: (N = 2973)

	Frequency	Percent
Improving	1183	39.8%
Staying the Same	1180	39.7%
Getting Worse	181	6.1%
Unsure	429	13.3%

Q 10. The following questions ask about your impressions of the University Safety Department (U Safety). The department includes University Police, Community Services, Campus Security, U Health Security, Emergency Management, and Emergency Communications.

Additionally, the newly created Office of the Chief Safety Officer coordinates efforts across the University Safety Department and is responsible for compliance, accreditation management, financial planning, strategic planning, marketing and communications, professional responsibility, IT strategy, and community engagement in coordination with Student Affairs and the Office for Equity, Diversity, and Inclusion.

Q 11. I trust that I would receive appropriate help in the event that I contact the U Safety Department: (N= 2,973)

	Frequency	Percent
Yes	1,588	53.4%
Maybe	1,115	37.5%
No	270	9.1%

# Q 12. Have you ever been in a situation that warranted contacting the U Safety Department, but you chose not to? (N = 2,973)

	Frequency	Percent
Yes	344	11.6%
No	2,629	88.4%

# Q 13. Please tell us more about why you chose not to contact the U Safety Department. (Text Entry)

#### Q 14. I feel positive towards the University Police. (N= 2,970)

	Frequency	Percent
Strongly Agree	636	21.4%
Agree	1,047	35.3%
Neutral	869	29.3%
Disagree	280	9.4%

Strongly Disagree	138	4.6%
-------------------	-----	------

# Q 15. I trust the University Police (N=2,970)

	Frequency	Percent
Strongly Agree	604	20.3%
Agree	1,020	34.3%
Neutral	902	30.4%
Disagree	299	10.1%
Strongly Disagree	145	4.9%

## Q 16. Have you interacted with University Police in the past 12 months? (N=2,970)

	Frequency	Percent
Yes	711	23.9%
No	2,154	72.5%
Not Sure	105	3.5%

# Q 17. How satisfied were you with the interaction? (Only individuals who responded "Yes" on question 16 viewed this question. N = 710)

	Frequency	Percent
Very Satisfied	363	51.1%
Somewhat Satisfied	150	21.1%
Neither Satisfied nor Dissatisfied	107	15.1%
Dissatisfied	53	7.5%
Very Dissatisfied	37	5.2%

Q 18. How would you describe your gender? Choose all that apply. (N = 2,987)

	Frequency	Percent
Agender	11	0.4%
Cisgender/Not Trans	402	13.5%
Genderqueer	31	1.0%
Genderfluid	23	0.8%
Man	835	28%
Non Binary	40	1.3%
Questioning	14	0.5%
Transgender	21	0.7%
Woman	1816	60.8%
Another gender identity not listed here	30	1.0%
Prefer not to disclose	144	4.8%

# Q 19. What is your role at the University? (N=2,987)

	Frequency	Percent
Academic Faculty/Staff	1015	34%
Healthcare Faculty/Staff	1048	35.1%
Other University Staff	609	20.4%
Undergraduate Student	353	11.8%
Graduate Student	254	8.5%

Q 20. How many hours on average per week do you spend at the U? (N=2958)

	Frequency	Percent
0 – I am never on campus.	197	6.7%
1-10	431	14.6%
10 - 20	358	12.1%
20 – 40	836	28.3%
40	1136	38.4%

Q 21. Do you live on campus?

	Frequency	Percent
Yes	109	3.7%
No	2,848	96.3%

Q 22. Are you a person with a disability? (N=2959)

	Frequency	Percent
Yes	197	6.7%
No	2595	87.7%

Q 23. How would you describe your sexual orientation? Choose all that apply. (N = 2987)

	Frequency	Percent
Asexual	93	3.1%
Bisexual	176	5.9%
Gay	89	3.0%
Heterosexual	2137	71.5%
Lesbian	59	2.0%
Pan-sexual	47	1.6%

Queer	83	2.8%
Questioning/Unsure	35	1.2%
Self Identify	48	1.6%
Prefer not to Identify	361	12.1%

# Q 24. What is your race/ethnicity (Choose all that apply)? (N=2987)

	Frequency	Percent
American Indian or Alaskan Native	39	1.3%
Asian	208	7%
Black or African American	39	1.3%
Native Hawaiian or Pacific Islander	31	1%
Two or More Races/Ethnicities	91	3%
White/Hispanic	253	8.5%
White or European American/ Non Hispanic	2192	73.4
Prefer Not to Respond	213	7.1%
Self Identify	59	2%

# APPENDIX D. Sentiment Analysis - R Code

```
# Load Libraries
library("tm") # for text mining
library("SnowballC") # for text stemming
library("wordcloud") # word-cloud generator
library("RColorBrewer") # color palettes
library("syuzhet") # for sentiment analysis
library("ggplot2") # for plotting graphs
raw data <- read survey("qualtrics survey.csv")
df1 <- raw data$Q8
df2 < -str replace all(df1, "[\r\n]", "")
nrow(raw data)
# Read the text file
text <- readLines([FILE NAME])</pre>
text < -df2
# Load the data as a corpus
TextDoc <- Corpus(VectorSource(text))</pre>
#Text FUnction/Punctuations/Key words/Stop Word removal
toSpace <- content transformer(function (x, pattern) gsub(pattern, "", x))
TextDoc <- tm map(TextDoc, toSpace, "/")
TextDoc <- tm map(TextDoc, toSpace, "@")
TextDoc <- tm map(TextDoc, toSpace, "\\\")
TextDoc <- tm map(TextDoc, content transformer(tolower))
TextDoc <- tm map(TextDoc, removeNumbers)
TextDoc <- tm map(TextDoc, removeWords, stopwords("english"))
TextDoc <- tm map(TextDoc, removeWords, c("s", "campus", "school", "safeti"))
TextDoc <- tm map(TextDoc, removePunctuation)
TextDoc <- tm map(TextDoc, stripWhitespace)
TextDoc <- tm map(TextDoc, stemDocument)</pre>
# Build DTM
TextDoc dtm <- TermDocumentMatrix(TextDoc)</pre>
dtm m <- as.matrix(TextDoc dtm)
dtm v <- sort(rowSums(dtm m),decreasing=TRUE)
dtm d < -data.frame(word = names(dtm v), freq=dtm v)
```

```
# Plot frequent words
barplot(dtm d[1:5]) freq, las = 2, names.arg = dtm d[1:5] word,
    col ="lightgreen", main ="Top 5 most frequent words",
    ylab = "Word frequencies")
#Word cloud
set.seed(1234)
wordcloud(words = dtm d$word, freq = dtm d$freq, min.freq = 3,
      max.words=200, random.order=FALSE, rot.per=0.20,
      colors=brewer.pal(8, "Dark2"))
# Find associations
findAssocs(TextDoc dtm, terms = c("good", "work", "health"), corlimit = 0.25)
findAssocs(TextDoc dtm, terms = findFreqTerms(TextDoc dtm, lowfreq = 50), corlimit = 0.25)
# Sentiment scores
syuzhet vector <- get sentiment(text, method="syuzhet")</pre>
head(syuzhet vector)
summary(syuzhet vector)
bing vector <- get sentiment(text, method="bing")</pre>
head(bing vector)
summary(bing vector)
afinn vector <- get sentiment(text, method="afinn")
head(afinn vector)
summary(afinn vector)
#compare the first row of each vector using sign function
rbind(
 sign(head(syuzhet vector)),
 sign(head(bing vector)),
 sign(head(afinn vector))
)
# NRC sentiment Analysis
d<-get nrc sentiment(text)
#Transpose
td < -data.frame(t(d))
td new <- data.frame(rowSums(td[2:253]))
#Transformation
```

```
names(td_new)[1] <- "count"
td_new <- cbind("sentiment" = rownames(td_new), td_new)
rownames(td_new) <- NULL
td_new2<-td_new[1:8,]
#Plot - count of words
quickplot(sentiment, data=td_new2, weight=count, geom="bar", fill=sentiment, ylab="count")
+ggtitle("Q8 : What does safety mean to you - Survey Sentiments")

#Plot - count of words associated with sentiment
barplot(
    sort(colSums(prop.table(d[, 1:8]))),
    horiz = TRUE,
    cex.names = 0.7,
    las = 1,
    main = "Emotions in Text", xlab="Percentage"
)</pre>
```

# **APPENDIX E. References**

- 1. Canning, S., Duszak, E., & Sills, J. (2020). (rep.). *Campus Climate Survey 2020: Overview*. Retrieved from https://studentaffairs.utah.edu/assessment/\_resources/documents/special-reports/campus-climate-survey-report-2020.pdf.
- 2. Bonnie Fisher et al., Nat'l Inst. of Justice & Bureau of Justice Stat., *The Sexual Victimization of College Women* (2000).
- 3. U.S. Department of Education. (2019). *Campus Safety and Security*. Retrieved from <a href="https://ope.ed.gov/campussafety">https://ope.ed.gov/campussafety</a>.