

Perceived Vulnerability of Victimization and the Fear of Crime: The Effects of Minority Sexual  
Orientation and Gender Identity

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**Abstract**

There are various factors that relate to an individual's fear of crime victimization. Existing research suggests that gender has an effect on perception of vulnerability and fear of victimization. Vulnerability is defined as the perception of being a suitable target to an offender. This study aims to contribute to existing literature on vulnerability and fear of victimization by categorizing perception of vulnerability on a non-binary scale by including minority sexual orientation (e.g., gay/lesbian/bisexual/pansexual), and minority gender identity (e.g., transgender/non-binary/non-gender conforming) as identity variables. A variety of visualizations will be used to provide greater understanding of results.

## **Introduction**

The purpose of this study is to contribute to existing research which suggests that perceived vulnerability influences fear of victimization; however, there is a lack of literature that considers minority gender identity and minority sexual orientation groups which is necessary to better understand the relationship between perception of vulnerability and its influence on fear of victimization. By expanding gender demographics from a binary scale to a scale that includes minority sexual orientation (e.g., gay/lesbian/bisexual/pansexual) and minority gender identity (e.g., transgender/non-binary/non-gender conforming) as identity variables, we hope to better understand the differences in fear of victimization and perception of vulnerability for gender and sexual orientation. We will provide a review of existing literature, describe the methods and design of our study, describe the data and measures for our analysis and resulting outcomes concluding with a review of the limitations of our research and implications.

## **Literature Review**

Gender has been studied extensively as a predictor of levels of fear of crime. Many studies have found that women report significantly higher levels of fear than their male counterparts (Cops and Pleysier, 2011; Sutton Farrall, 2005). There have been numerous efforts to explain this gap such many with a focus on the socialization process in which females are socialized as fearful compared to fearless men. A study by Cops and Pleysier (2011) utilized the “doing gender” thesis to develop a gender identity scale. The scale included measures of perceptions and attitudes toward activities that are seen as either masculine or feminine. The scale allowed researchers to test whether some aspects of culturally constructed gender identity may explain the gender gap seen in fear of crime. Results showed that fear of crime was not static and reported fear levels changed over time. The gender identity scale could not explain all

the gender differences; it implies that there may be additional explanations for the gender gap in fear of crime.

Majority of fear research focuses on heterosexual populations. However, there are a few that have been conducted. Otis (2007) focuses on the fear of crime and risk perceptions among self-identified lesbians and gay men. Findings indicated that women and individuals who had experienced prior victimization had higher levels of perceived risk. The perceived risk was offense-specific, and past personal victimization predicted fear of future victimization. If an individual had been a victim of property crime previously were more fearful of future property crime victimization (Otis, 2007).

## **Methods**

### **Sample**

Our sample was obtained through convenience sampling, which consisted of graduate students from the University of Texas at Dallas (UTD). Only students in the same classes as the researchers were permitted to participate in the study per IRB guidelines. Questionnaires were distributed online via Qualtrics to graduate student listservs available on eLearning. In total, 48 students responded to the survey, but three were removed due to incomplete responses.

### **Design**

This is an exploratory research project that quantitatively analyses the possible effect of gender on fear of victimization and perception of vulnerability. This study categorizes perception of vulnerability on a non-binary scale by including minority sexual orientation (e.g., gay/lesbian/bisexual/pansexual), and minority gender identity (e.g., transgender/non-binary/non-gender conforming) as identity categorical variables.

### **Internal Review Board (IRB)**

Before data collection could begin, each author and/or co-author had to complete a human subject research training through the UTD to obtain IRB certification. Following that, the project design was submitted, which highlighted the objective, purpose, and intended methodology. The IRB process additionally required that researchers provide justification for the intended research and details on the study consent, recruitment, data collection, analysis, and more.

## **Survey**

Surveys were conducted on a voluntary basis. The surveys utilized a fixed choice survey approach to obtain the demographic information that served as the control variables. These variables increased significant power by considering additional potential moderating variables that could influence the resulting outcomes. Researchers completed a preliminary analysis to remove surveys that were incomplete or contained errors.

## **Measures**

### **Dependent Variables**

***Fear of Victimization.*** To examine the respondents' fear of victimization, a 5-point scale (1 = *very unlikely*, 5 = *very likely*) assessed the respondent's fear of verbal threats or harassment, and physical assault (excluding sexual assault). Specifically, we asked respondents, "On a scale from "Very Unlikely" to "Very Likely," how likely do you believe that the following could ever happen to you? (1) Verbally threatened or harassed, (2) Physically assaulted (excluding sexual assault)."

***Perception of Vulnerability to Victimization.*** The analysis includes a 4-item standardized mean index that assesses the respondents' perception of safety on and around campus (1 = *Not safe at all*, 4 = *Very safe*). Specifically, respondents were asked: "How safe do you feel? (1) On your campus (daytime)?, (2) On your campus (nighttime)?, (3) In the community surrounding

your campus (daytime)?, (4) In the community surrounding your campus (nighttime)?" The index is coded such that higher values correspond to greater feelings of safety ( $\alpha = .766$ ).

### **Independent Variables**

***Gender Identity.*** Respondents were given the choice of Cis-Male, Cis-Female, Transgender, non-binary, non-gender conforming, and other. For the regression analysis, the measure was recoded into a dummy variable: (0) Cis-Male, (1) Cis-Female, and (2) non-binary.

***Sexual Orientation.*** Respondents were given the choice of Heterosexual, Gay, Lesbian, Bisexual, Pansexual, and Other. For the regression analysis, the measure was recoded into a dichotomous measure of (1) Queer and (0) Heterosexual.

***Sexual Orientation Openness.*** To measure sexual orientation openness for respondents, except those who identified as Heterosexual, Cis-Male, and Cis-Female, were asked, "Are you open about your sexual orientation/gender identity?" The respondents were dichotomously coded such that 0 indicates no to being open about their sexual orientation or gender identity and 1 indicates yes to being open about their sexual orientation or gender identity.

### **Control Variables**

We control for both race, age as well as living on campus in our analyses that may confound the relationships between the independent and dependent variables. To measure living on campus, respondents were asked, "Do you live on campus?" Responses were dichotomously coded such that 0 indicates not living on campus and 1 indicates living on campus.

### **Research Question**

With the large gap of literature on the fear of victimization and perception of vulnerability for minority gender and sexual orientation groups, we want to know if they feel safe. Three research hypotheses were developed to address this question:

Hypothesis 1: Minority sexual orientation students will report a higher perception of feeling vulnerable to victimization than heterosexual students.

Hypothesis 2: Minority gender identity students will report a higher perception of feeling vulnerable to victimization than cis-gendered students.

Hypothesis 3: Students who select minority sexual orientation and minority gender identity identifiers will report a higher perception of vulnerability to victimization than students who identify with one or no minority groups.

## **Results**

Researchers ran a multivariate regression analysis to test the relationship between the independent and dependent variables. Heterosexual individuals were found to be significantly less likely to be fearful of physical assault than those who identify as queer ( $p < .01$ ). This remained significant even after controlling age, race, and living on campus. This significance of gender identity, however, only existed for fear of physical assault and not verbal threats. Sexual orientation was not a significant predictor for fear of physical assault or verbal threats. Additionally, gender identity and sexual orientation were not significant predictors of perceived vulnerability of victimization.

Findings of this study are highlighted in this section. Pie charts were generated to showcase the independent variables and major demographic distributions: gender identity, sexual orientation, race, and age. Box plots and regressions were generated to emphasize the effect of the independent variables, gender identity and sexual orientation, on fear of victimization, specifically physical assault, verbal threats, and perception of victimization vulnerability, in relation to campus and community safety. Respondents were separated by gender identities, heterosexual and queer sexual orientations. Interaction plots were generated to highlight possible interactions between the independent variables, sexual orientation, and gender identity. However,

these interpretations cannot be extended to compare to nonbinary heterosexual individuals, as there were no participants in the sample who identified as “nonbinary heterosexual.”

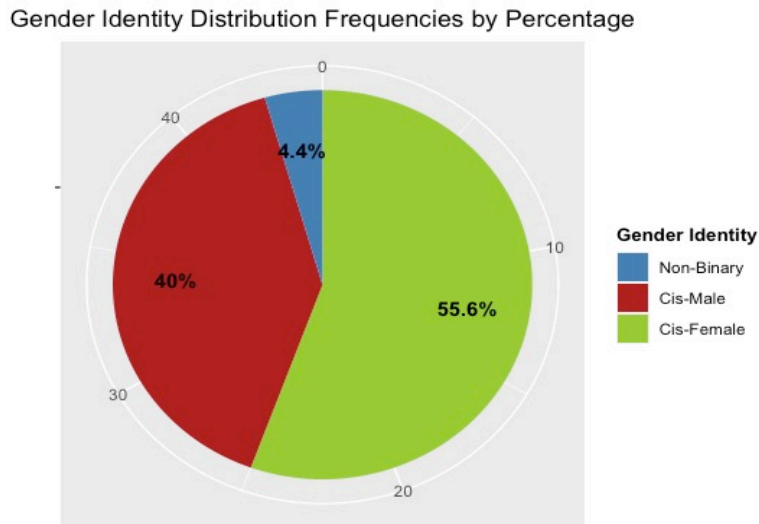


Figure 1. Gender Identity Distribution Frequencies by Percentage.

Out of 45 surveys, all but two respondents selected either Cis-Male or Cis-Female; those two respondents (4.4%) were grouped as “non-binary.” Our “non-binary” category is intended to reflect all “minority gender” groups as supported by the literature review.

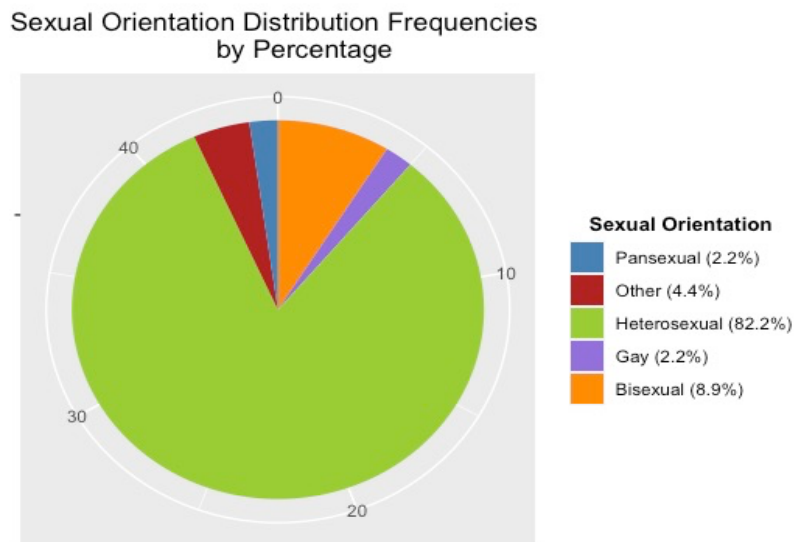


Figure 2. Sexual Orientation Distribution Frequencies by Percentage.

The total population of “minority sexual orientation” respondents make up an estimated 17.8% of the respondent population.

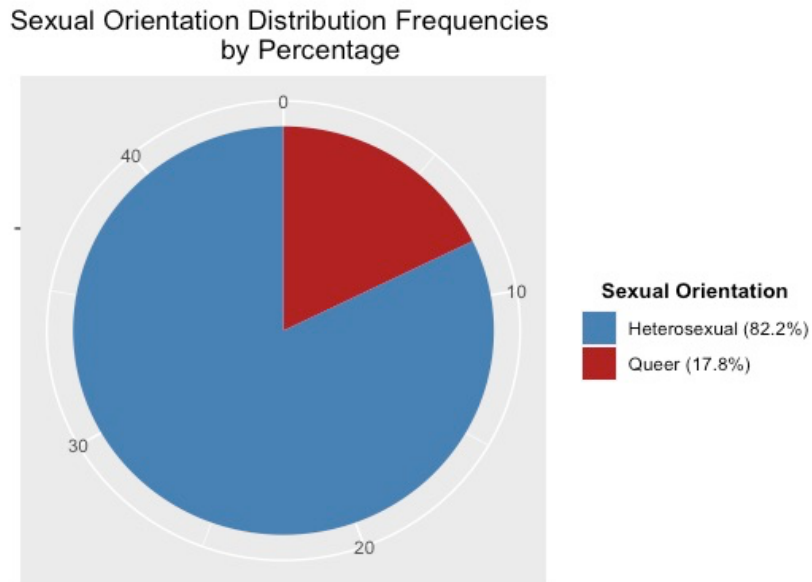


Figure 3. Sexual Orientation Distribution Frequencies by Percentage, Queer versus Heterosexual.

Figure 3 reflects the frequency of the sexual orientation distribution of the sample. The queer group of the study population is the considered the minority sexual orientation group.



Race Distribution Frequencies by Percentage

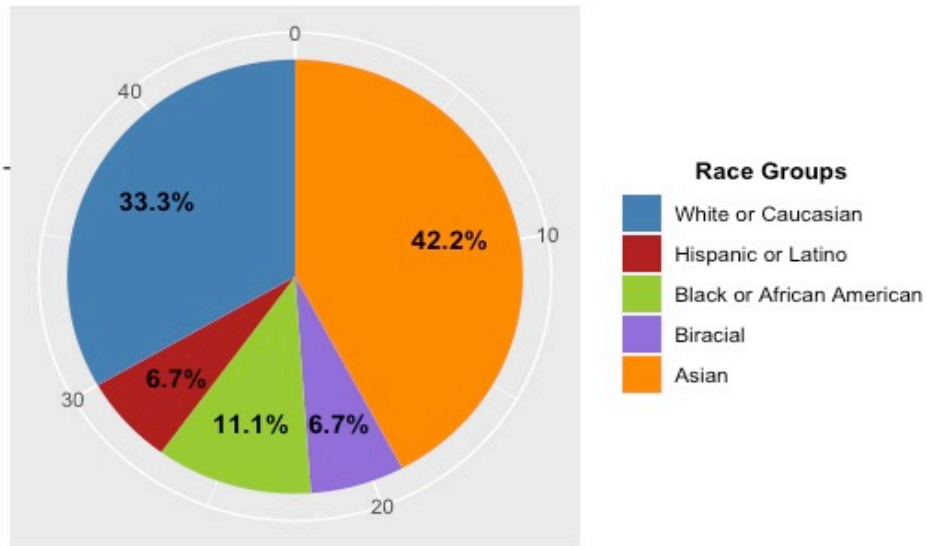


Figure 4. Race Distribution Frequencies by Percentage.

Figure 4 represents the frequency distribution of the study population by race. Survey respondents were asked to select their race as either White or Caucasian, Hispanic or Latino, Black or African American, biracial, and Asian.

Age Distribution Frequencies by Percentage

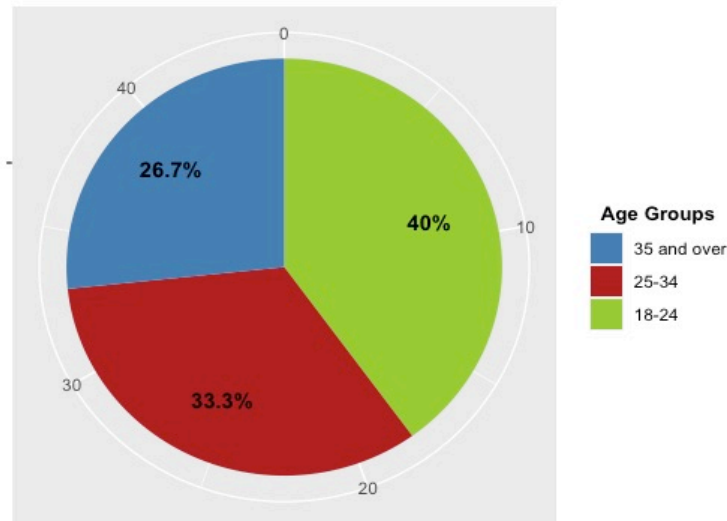


Figure 5. Age Distribution Frequencies by Percentage.

Survey respondents were categorized by traditional age groups of between 18-24, between 25-34 and 35 and older. Most respondents (40%) were between 18-24 years old. Approximately 73.3% of the total population responded that they were under the age of 35.

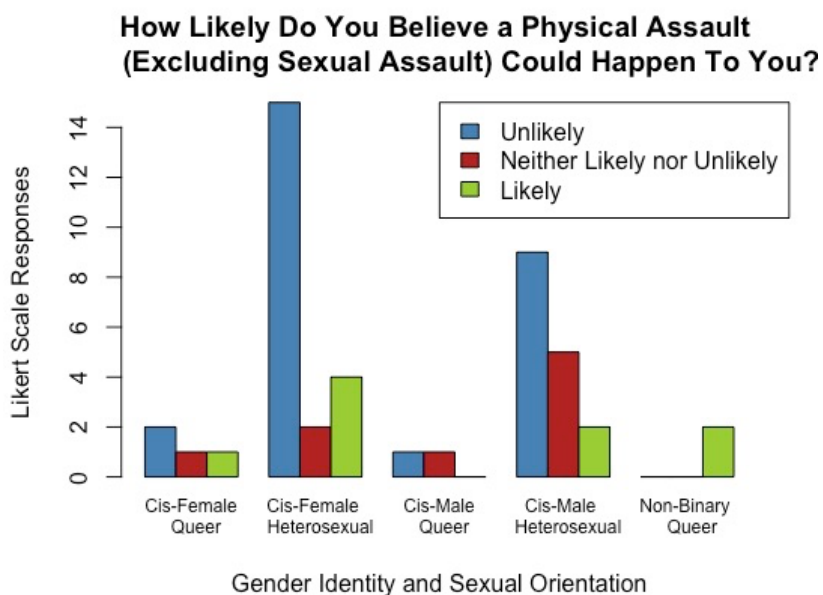


Figure 6. Likert Responses to Fear of Physical Assault (Excluding Sexual Assault), Aggregated by General Likelihood.

Figure 6 encapsulates the participants' fear of being physically assaulted, excluding sexual assault. These responses were grouped by gender identity and sexual orientation of the participants, and the responses were aggregated by general likelihood or unlikelihood. Cis-heterosexual respondents were less afraid of the possibility of being physically assaulted than both cis-queer respondents and non-binary queer respondents. Non-binary queer respondents exclusively felt they were likely to be susceptible to physical assault.

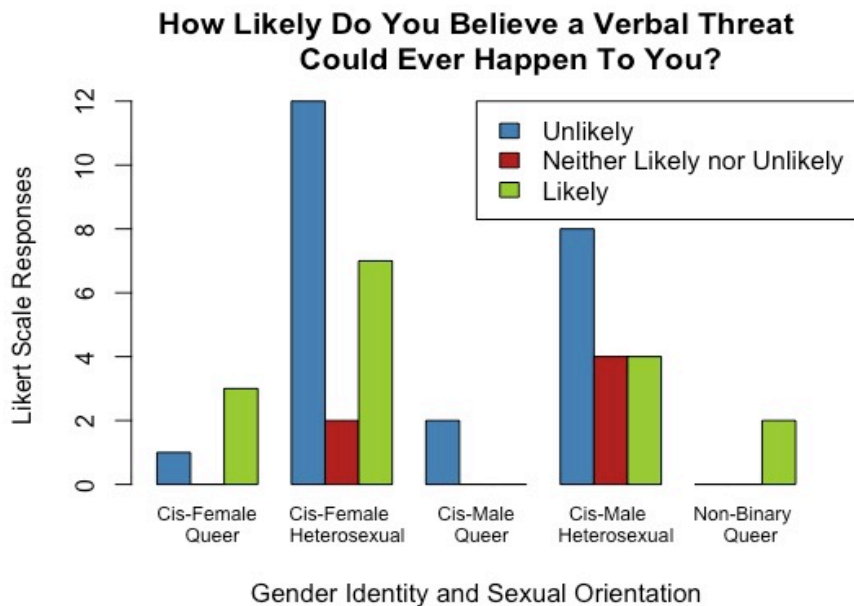


Figure 7. Likert Responses to Fear of Verbal Threat, Aggregated by General Likeliness.

Responses were grouped by gender identity and sexual orientation of the participants, and the responses were aggregated by general likeliness or unlikeliness. Cis-female respondents did have more fear of the likelihood of verbal threats than physical assault. Non-binary queer respondents exclusively felt they were likely to be susceptible to verbal threats.

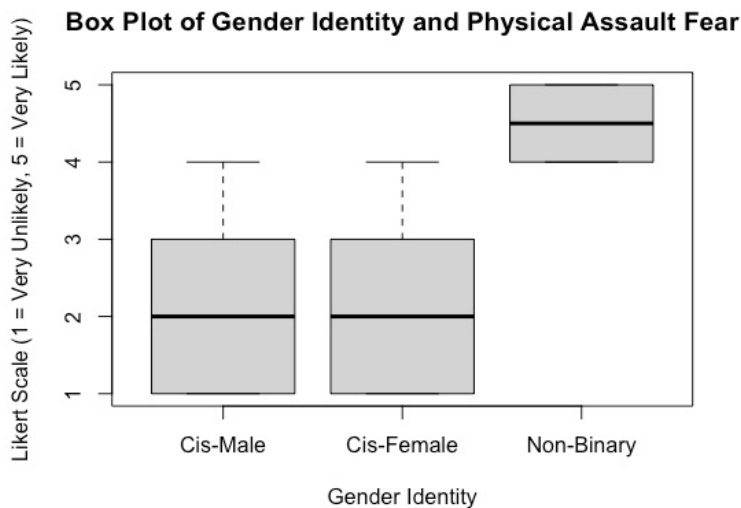


Figure 8. Box Plot of Gender Identity on Physical Assault Fear.

The mean for both cis-male and cis-female participants had a mean Likert value of 2, or “Somewhat Unlikely”. Conversely, nonbinary participants had a mean Likert value of 4.5, bordering on “Very Likely”. This indicates that nonbinary respondents have a higher level of victimization fear in relation to physical assault than their cis-gender counterparts.

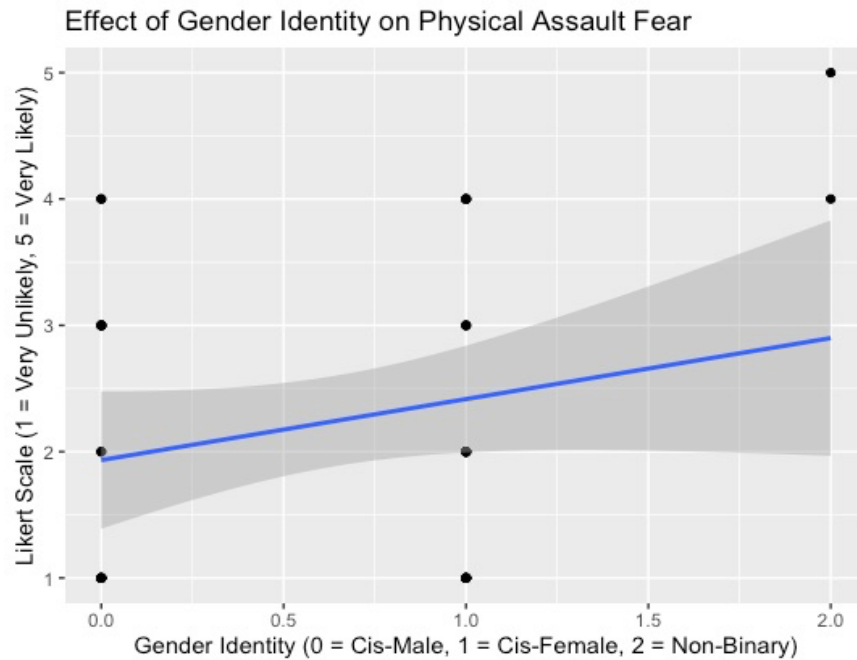


Figure 9. Regression of the Effect of Gender Identity on Physical Assault Fear.

The regression slope is a positive, rising trendline, indicating that nonbinary participants feel more fear of physical assault compared to both cis-female and cis-male respondents, and cis-females feel more fear of physical assault compared to cis-males, but less fear compared to nonbinary respondents.

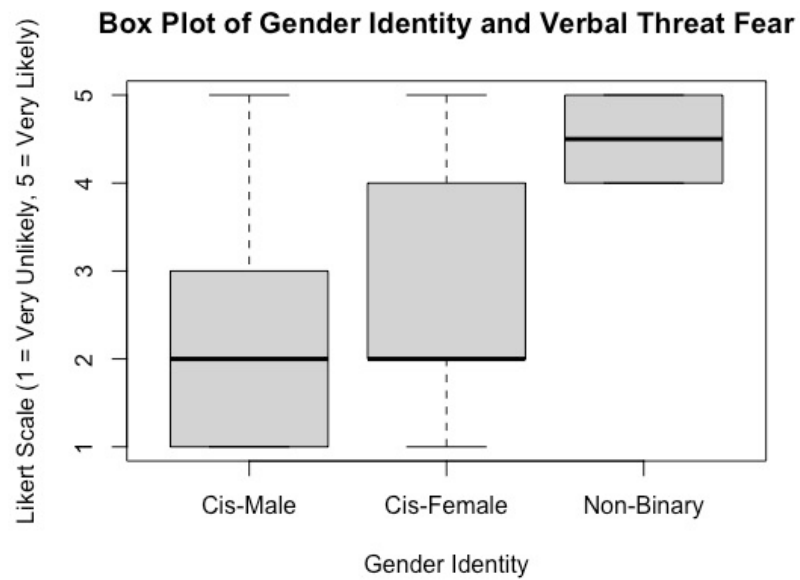


Figure 10. Box Plot of Gender Identity on Verbal Threat Fear.

Figure 10 represents the box plot of verbal threat fear by gender identity. This indicates that nonbinary respondents have a higher level of victimization fear in relation to verbal threat than their cis-gender counterparts.

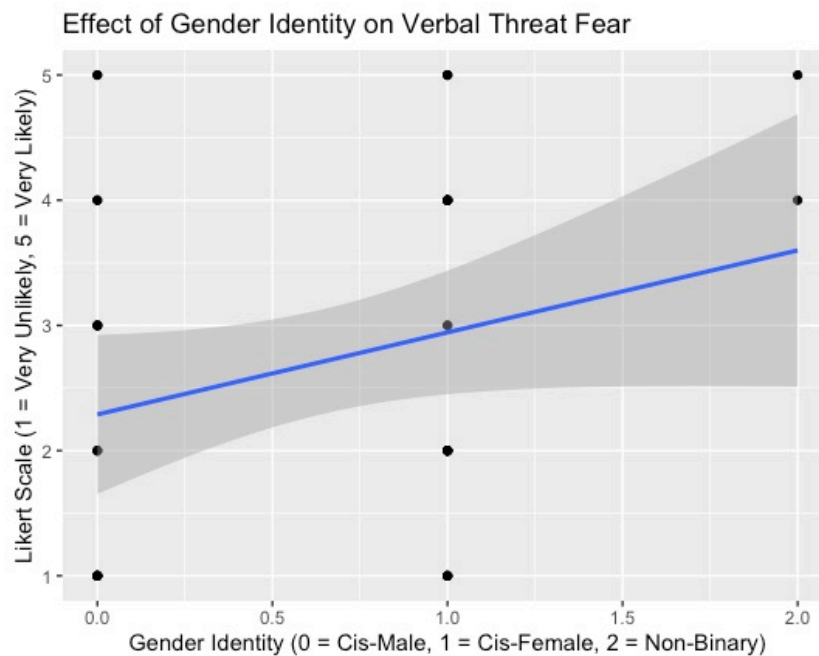


Figure 11. Regression of the Effect of Gender Identity on Verbal Threat Fear.

The regression slope is a positive, rising trendline, indicating that nonbinary participants feel more fear of verbal threat compared to both cis-female and cis-male respondents, and cis-females feel more fear of verbal threat compared to cis-males, but less fear compared to nonbinary respondents.

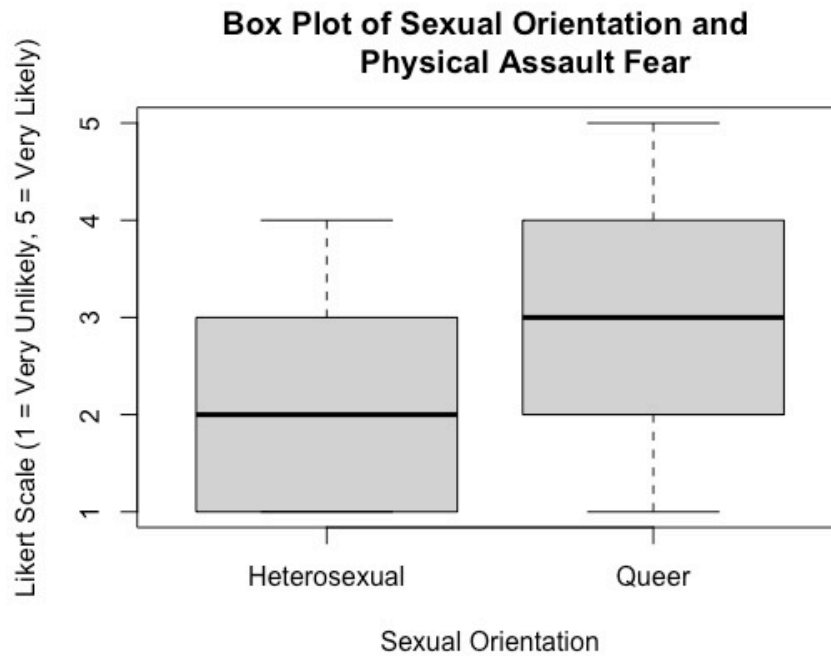


Figure 12. Box Plot of Sexual Orientation on Physical Assault Fear.

Heterosexual participants had a mean Likert value of 2, or “Somewhat Unlikely”. Queer participants had a mean Likert value of 3, or “Neutral”. This indicates that queer respondents have a higher level of victimization fear in relation to physical assault.

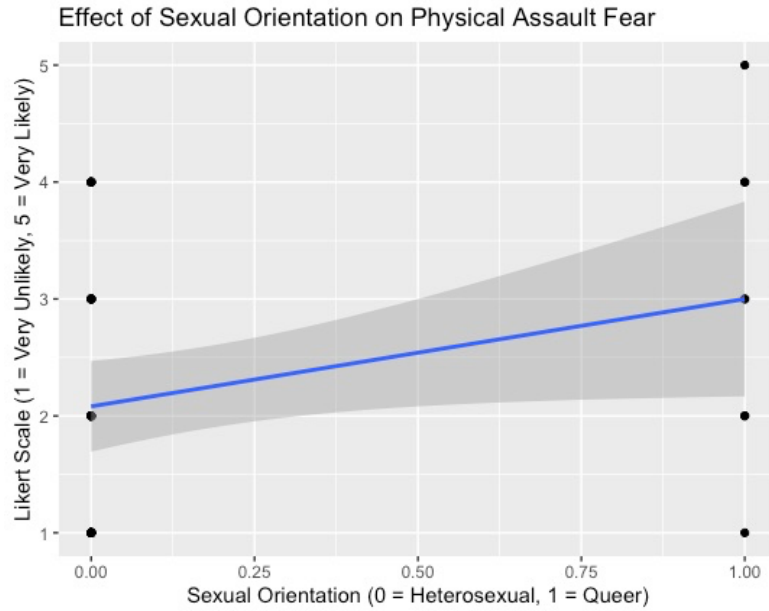


Figure 13. Regression of the Effect of Sexual Orientation on Physical Assault Fear.

The regression slope is a positive, rising trendline, indicating that queer participants feel more fear of physical assault compared to heterosexual respondents. This further supports that minority sexual orientation or queerness increases fear of physical assault victimization.

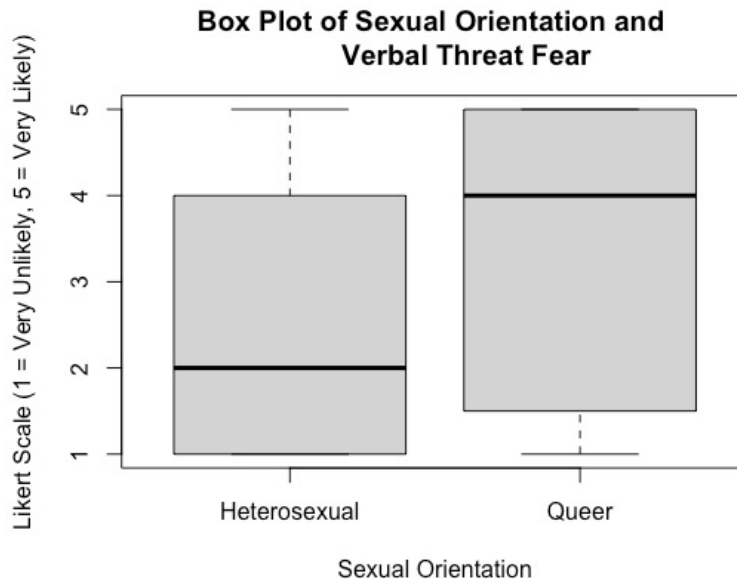


Figure 14. Box Plot of the Effect of Sexual Orientation on Verbal Threat Fear.

Heterosexual participants had a mean Likert value of 2, or “Somewhat Unlikely”. Queer participants had a mean Likert value of 4, or “Somewhat Likely”. This indicates that queer respondents have a higher level of victimization fear in relation to verbal threat than their heterosexual counterparts.

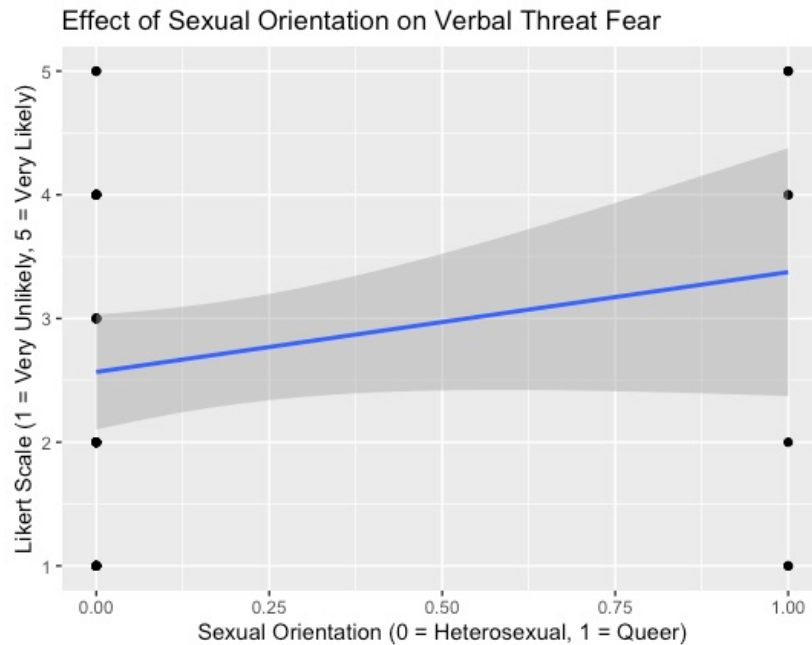


Figure 15. Regression of the Effect of Sexual Orientation on Verbal Threat Fear.

The regression slope is a positive, rising trendline, indicating that queer participants feel more fear of verbal threats compared to heterosexual respondents. This supports that minority sexual orientation or queerness increases fear of verbal threat victimization.



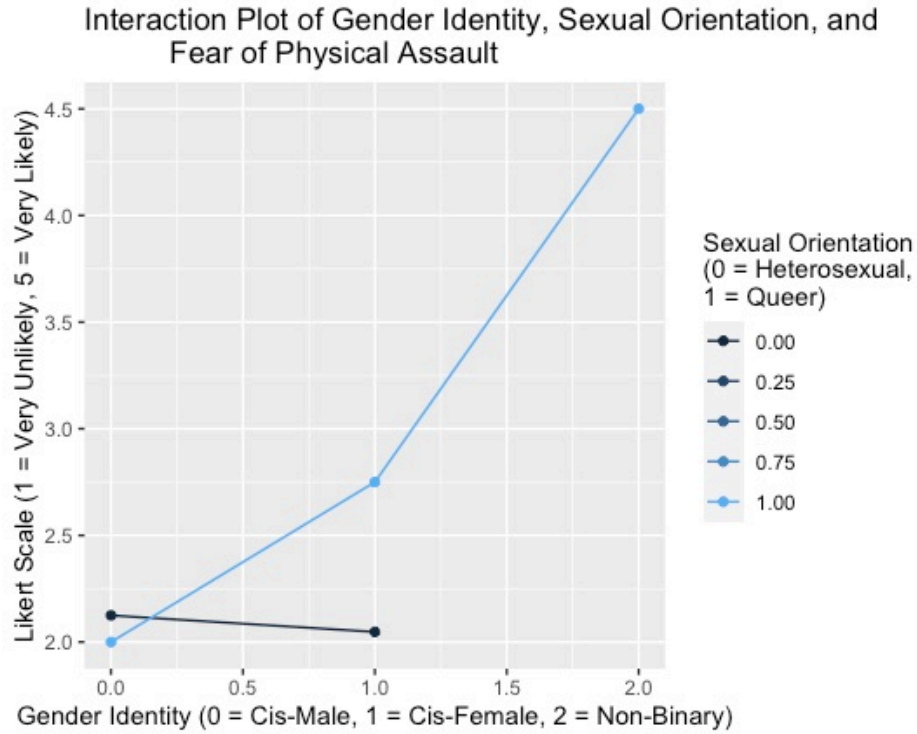


Figure 16. Interaction Plot of Gender Identity and Sexual Orientation on Physical Assault Fear.

Figure 16 shows an interaction plot of the main independent variables, gender identity and sexual orientation, and fear of physical assault victimization. This chart highlights that there is an interaction effect between sexual orientation and gender identity in relation to fear of physical assault.

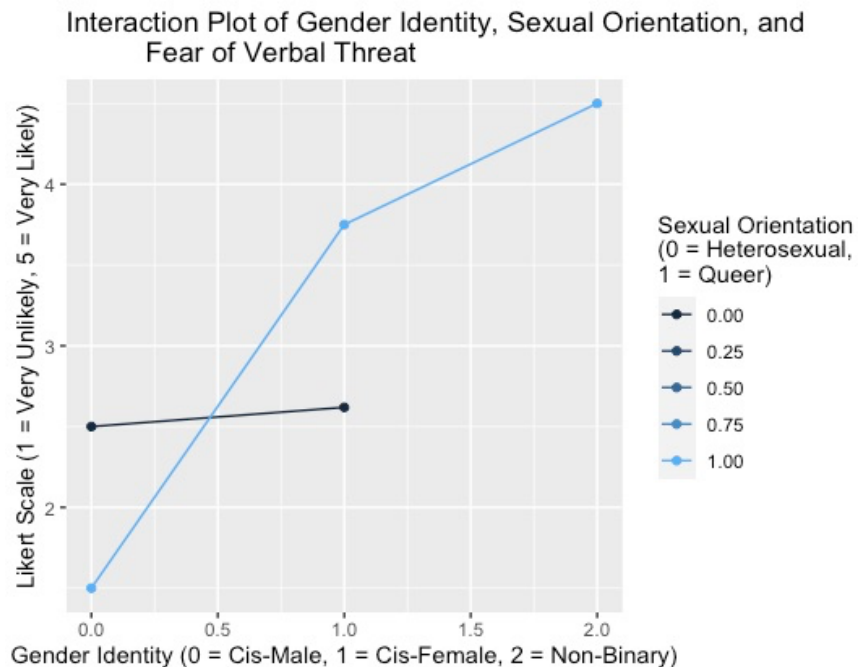


Figure 17. Interaction Plot of Gender Identity and Sexual Orientation on Verbal Threat Fear.

Figure 17 highlights that there is an interaction effect between sexual orientation and gender identity in relation to fear of verbal threat.

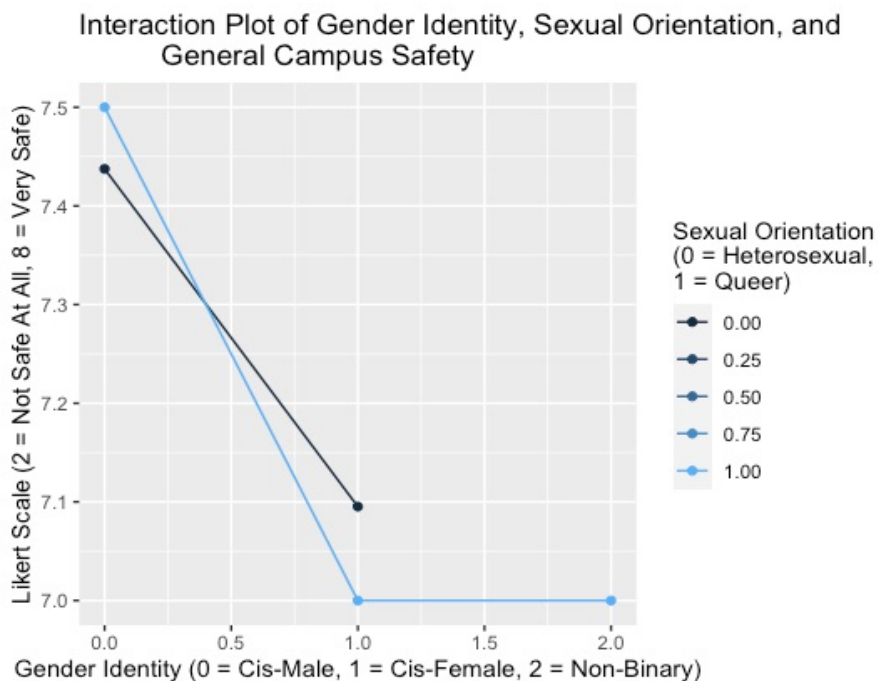


Figure 18. Interaction Plot of Gender Identity and Sexual Orientation on General Campus Safety.

Figure 18 shows general campus safety perceptions during the day and night. This chart highlights that there is an interaction effect between sexual orientation and gender identity in relation to perception of general campus safety perception.

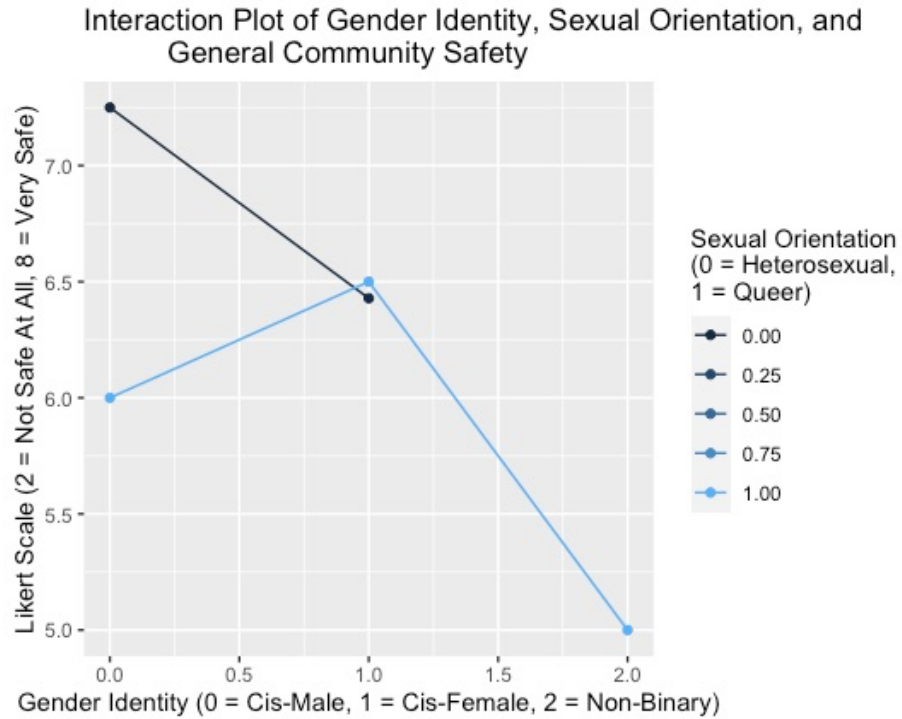


Figure 19. Interaction Plot of Gender Identity and Sexual Orientation on General Community Safety.

Figure 19 shows an interaction plot of the main independent variables, gender identity and sexual orientation, and perception of general community safety. This chart highlights that there is an interaction effect between sexual orientation and gender identity in relation to perception of general community safety perception.



Figure 20. Regression of the Effect of Gender Identity on General Safety.

Figure 20 represents the regression plot of the effect of gender identity on general safety perception. The regression slope is a negative, falling trendline, indicating that nonbinary participants perceive higher general vulnerability compared to cis-gender respondents. Supporting that nonbinary gender identity negatively affects general perception of vulnerability.

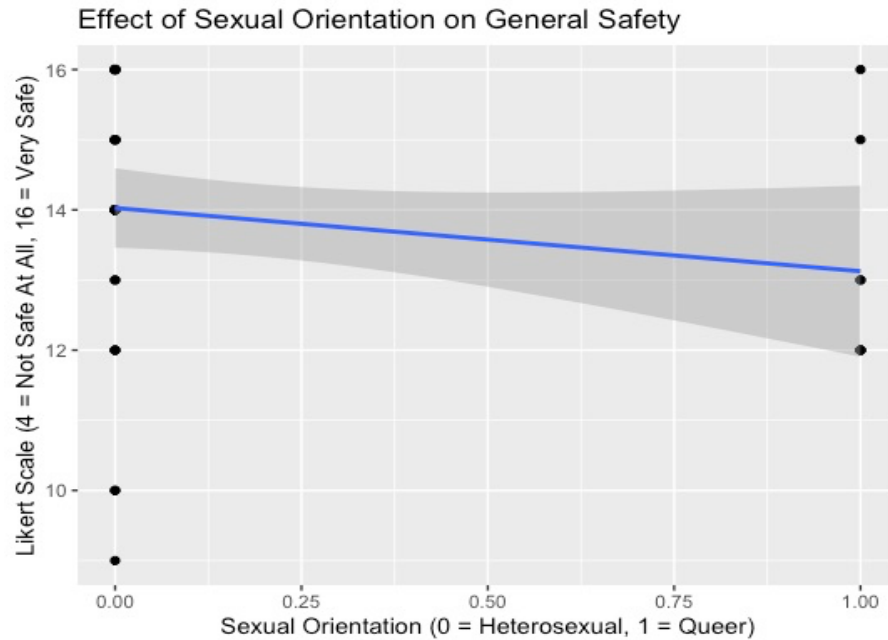


Figure 21. Regression of the Effect of Sexual Orientation on General Safety.

The regression slope is a negative, falling trendline, indicating that queer participants perceive higher general vulnerability compared to heterosexual respondents. This further supports that minority sexual orientation or queerness negatively affects general perception of vulnerability.

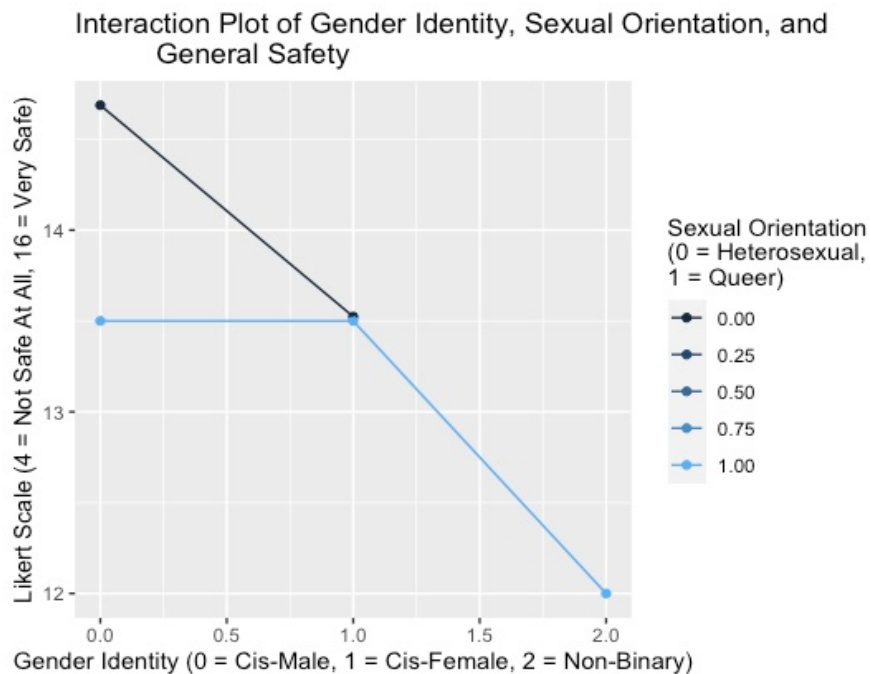


Figure 22. Interaction Plot of Gender Identity and Sexual Orientation on General Safety.

Figure 22 shows an interaction plot of the main independent variables, gender identity and sexual orientation, and perception of general safety. This chart highlights that there is an interaction effect between sexual orientation and gender identity in relation to perception of general safety perception.

### **Conclusion & Implication**

In agreement with previous research, the results indicate that an individual's gender influences their fear of victimization (Jennings, Gover, & Pudrzynska, 2007; May, Rader, & Goodrom, 2009). The results also partially support our hypotheses regarding minority gender identity because significant differences were found between those who identify as non-binary and cis gendered on their fear of being physically assaulted. Additionally, our results did find that reported fear of victimization is higher off campus than on campus, differing from Maier & DePrince (2020), however this difference may be attributed to location, as the university sampled in the Maier & DePrince (2020) study is in a high crime area. Findings supported that students feel safer during the day than at night, both on campus and in the surrounding community.

The results of this study emphasize the importance of increased focus for universities on improving the perceptions of a safe environment for minority gender identity and sexual orientation students. Non-heterosexual students held a higher perception of vulnerability to physical assault and verbal threats, emphasizing the need for universities to ensure an inclusive environment for all students. This study reinforces the need to include demographic information surrounding gender identity and sexual orientation in future studies, as individuals with such identities can have different experiences than their cis-gender and heterosexual counterparts. It is crucial to be able to identify marginalized communities within a population to ensure resources can be appropriately allocated.

This study was not without limitations. Due to the limited sample size, it is difficult to generalize results to the population. This is compounded by the non-randomized sampling method. The use of random sampling could rectify this issue. Additionally, future research should include questions surrounding students' history of victimization. Prior victimization has the potential to provide an explanation for individual fear that may not be attributed to the tested variables. An individual's fear of vulnerability and their feelings of safety have wide sweeping implications. Further research is needed to better understand the relationship between gender identity and sexual orientation on individual fear of victimization.

### **Synergy Report**

The group is composed of one graduate student who served as the primary coordinator (Diana Rodriguez) and three additional graduate students (Samantha Manuel, Haley Puddy and Lauren Van Blarcum) who together completed the objectives of this project. The abstract and introduction section were completed by Diana and Lauren. Additionally, the information in the abstract and introduction was used to request permission to conduct human research from the Institute Review Board (IRB). Diana was listed as the IRB petition primary investigator; however, Haley was an equal contributor to the completion of the original IRB application and through the editing process. Diana additionally met with IRB staff on several occasions to review the application prior to formal submission for review by the IRB.

The literature review section was a collaborative effort between all group members. Diana and Haley communicated with Criminology faculty to receive advice and additional resources that would guide the group through the execution of this project. Samantha and Lauren first reviewed and gathered existing literature and uploaded articles to the groups shared online folder. Lauren accessed the resources in the shared folder, provided by faculty, and as

needed to complete the literature review. Additionally, Lauren contributed some of the literature review to the introduction to create cohesion in the paper.

Portions of the IRB application required this group to create consent forms, recruitment tools, and descriptions of the survey for potential participants. These documents were created and uploaded by Diana and Haley. These documents were synchronized to the final Qualtrics survey created by Samantha before dissemination to the class - Diana notified the class in-person when the survey was available after IRB approval.

Haley, Samantha, and Lauren accessed the resulting output from completed surveys at the end of the data collection period. Haley and Diana downloaded the resulting output to complete data cleaning before sharing clean data with Samantha. Samantha and Diana then used output information in the creation of visual aids, and corresponding interpretations of the output information. The group discussed and reviewed what resulting output and variables were important to mention in the paper and supplementary presentation. Haley completed the task of including this information in the final paper.

The research design and hypotheses questions for this project were created as a collaborative decision between all group members. The questions were determined to be appropriate for the project and course objectives. The group additionally met to discuss the structure of the class presentation, and final paper. Meeting outside of class was challenging at times because of differing schedules and responsibilities outside of the course; however, all group members communicated consistently, prioritized set meeting times and demonstrated the ability to complete delegated tasks independently.



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