

## Abstract

**Background:** Loneliness is an increasingly widespread issue that has been demonstrated to heighten negative outcomes within affected individuals. The prevalence rate of loneliness has been steadily rising within recent decades, with studies indicating the highest peak occurring in late adolescence and early adulthood. As college-age individuals are among the highest percentage of those qualified as lonely, understanding the factors affecting their loneliness will shed light on the issue at large. Some studies have reported that over 70% of adolescents and 50% of those aged over 85 express experiencing recurring loneliness (Goosby et al., 2013; Nyqvist et al., 2017). Additionally, research has consistently demonstrated a roughly 30% higher risk of early mortality within those experiencing persistent social isolation or loneliness (Holt-Lunstad et al., 2015). The aim of the current study is to gain a comprehensive understanding of college students' perspectives on loneliness and explore potential causal variables.

**Methods:** The study sample consists of both male and female undergraduate psychology students enrolled at a private university. Participants were first asked to complete a Qualtrics survey, which included a demographic questionnaire followed by the Social Connectedness Instrument. Subjects then participated in individual, semi-structured interviews wherein they were asked various questions regarding their definition of loneliness and opinions on the causal variables behind loneliness, as well as to compare the commonly used UCLA Loneliness Instrument to the Social Connectedness Instrument (SCI). The study is expected to provide insight for the development of interventions that can be used to prevent and mediate loneliness during adolescence and young adulthood.

### Results and Conclusions:

The study sought to discover how participants viewed loneliness and found that participants most commonly expressed loneliness as lacking friends and meaningful connections. During an analysis of variables that students attributed to causing loneliness a rank order was created of the variables that found that social anxiety, fear of rejection/insecurity, and grief/loss were the top three variables that contribute to loneliness. Additionally, a Chi Square test of Independence was run to see if there was a difference of variable rank order between demographics, however no statistically significant results found. Finally, a regression analysis was done which returned 6 items of statistical significance.

## Introduction and Research Questions

Loneliness is on the rise in the United States. The distribution of loneliness across ages appears to be a bimodal one, with the largest peak occurring in adolescents and young adults, and the second large peak occurring in the elderly. The prevalence of loneliness is of especially high concern because of the coinciding increased likelihood of mortality of those affected. Research has consistently demonstrated a higher risk of mortality within those experiencing persistent social isolation or loneliness. This study explores the subjective definitions of loneliness and the perceived causes of loneliness among college students. Additionally, this study seeks to explore the following research questions:

- How do college students define loneliness? (i.e., what themes are associated with their definitions of loneliness?)
- What is the rank-order of the top causal/contributing variables?
- Is there a difference in the top causal/contributing variables to loneliness for different groups of participants?
- What is the best predictive model of loneliness?

## Methods

### Participants

The data gathered represents a sample of 94 undergraduate students enrolled at Liberty University. To participate in the study, students had to be 18 years of age or older, a residential student, and enrolled in a residential, undergraduate psychology course.

### Study Design

The study is a mixed-method design with both a qualitative interview and a quantitative survey.

### Procedures

Each participant scheduled a time to meet in-person with one of the researchers to participate in a one-on-one interview. When the participants arrived during their scheduled time slots, they were instructed to take the Qualtrics survey and provide the researchers with the four-digit pin given to them so the researchers could link their Qualtrics data with their interview transcript. After the participant had finished the survey, the researcher began the semi-structured interview part of the study. The researcher recorded using Otter. Ai, an automatic online transcriber program. The researcher asked the participant a series of prewritten questions, and additional probing and/or clarifying questions if needed. Participants were first asked to define loneliness and were then prompted to evaluate a list of casual variables presented to them. Each participant was presented with the Student Social Capital Instrument and the UCLA questionnaire and were asked to assess the instruments, identifying whether they preferred one measurement over the other.

**Table 1**

*Top ten most commonly used words*

Word	Frequency
Feel	120
People	84
Alone	55
Isolate	24
Want	19
Social	18
Connect	17
Relationship	17
Meaningful	16
Interaction	13

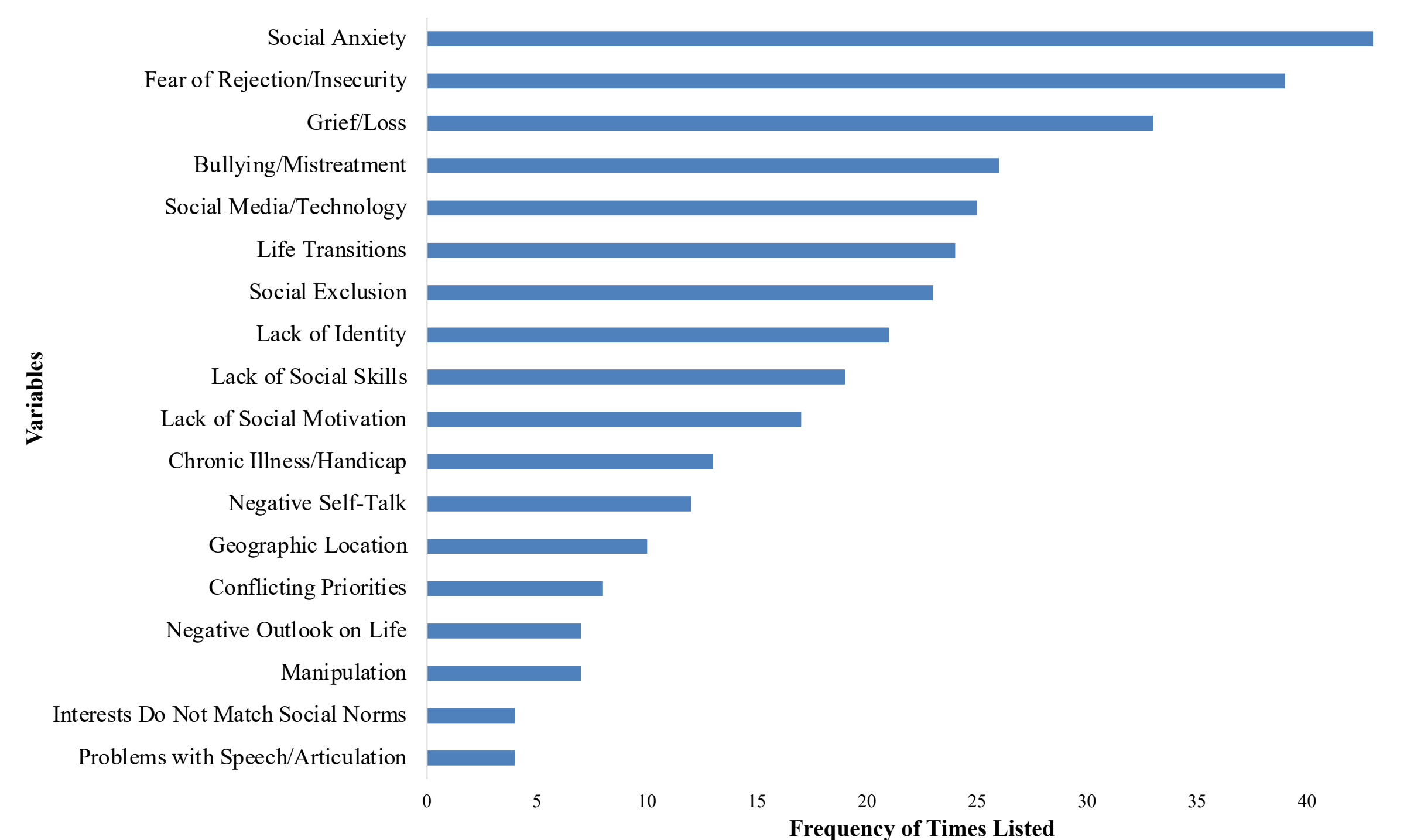
**Table 3**

*Rank Order of Variables that Cause Loneliness*

Variable	Frequency	Participant's Perceived Link to Loneliness
Social Anxiety	43 (12.84%)	Avoiding social situations due to fearing the interaction.
Fear of Rejection/Insecurity	39 (11.64%)	Being afraid of rejection or feeling insecure about oneself can prevent social interaction.
Grief/Loss	33 (9.85%)	Coping with the death of a loved one can lead to loneliness.
Bullying/Mistreatment	26 (7.76%)	Being mistreated can lead to feelings of isolation and loneliness.
Social Media/Technology	25 (7.46%)	Spending too much time on technology can lead to isolation and disconnection.
Life Transitions	24 (7.16%)	Major life changes can be a lonely experience.
Social Exclusion	23 (6.87%)	Feeling left out can lead to loneliness.
Lack of Identity	21 (6.27%)	Feeling unsure of oneself can lead to feelings of loneliness.
Lack of Social Skills	19 (5.67%)	Difficulty connecting with others due to a lack of social skills can lead to loneliness.
Lack of Social Motivation	17 (5.07%)	Some people do not desire social interaction.
Chronic Illness/Handicap	13 (3.88%)	Coping with illness or disability can hinder social interaction
Negative Self-Talk	12 (3.58%)	Consistently criticizing oneself can hinder forming close relationships with others.
Geographic Location	10 (2.99%)	Living in a remote location or far away from family and friends can lead to feelings of loneliness.
Conflicting Priorities	8 (2.39%)	Work or school responsibilities may make it difficult to socialize.
Manipulation	7 (2.09%)	Feeling like someone is trying to control them can cause people to avoid social activities.
Negative Outlook on Life	7 (2.09%)	Having a negative outlook on life can prevent close relationships with others.
Problems with Speech/Articulation	4 (1.19%)	Difficulty in expressing oneself can lead to loneliness.
Interests Do Not Match Social Norms	4 (1.19%)	No data

**Figure 1**

*Frequency of Variables Perceived to Cause Loneliness*



**Table 2**

*Top six themes in participants' definition of loneliness*

Phrase	Frequency
Lack of friends, social support, rejection, feeling abandoned, belonging, feeling like nobody cares, neglected, unwanted	50
Inability to have meaningful relationships/connections/conversations/interactions	47
Feeling lonely even when surrounded by people	33
Ties with mental health problems, sadness, depression, or cognitive processes regarding loneliness	29
Isolation	25
Lack of social interactions/physically alone	18

**Table 4**

Multiple Regression Analysis of Loneliness Scores

Variable	$\beta$	p
Geographic Location	.051	.406
Life Transitions	.034	.640
Chronic Illness/Handicap	.026	.716
Problems w Speech	-.079	.325
Fear of Rejection	.189	.026*
Social Anxiety	-.066	.414
Bullying/Mistreatment	.177	.023*
Lack of Social Motivation	.002	.981
Lack of Identity	-.090	.210
Interests do not Match Norms	-.056	.365
Social Exclusion	-.019	.807
Technology/Social Media	.241	.005**
Conflicting Priorities	-.008	.905
Grief/Loss	.064	.389
Manipulation	-.110	.074
Social Skills	-.074	.373
Negative Self-Talk	.228	.005**
Negative Outlook on Life	.112	.192
# of Meaningful Conversations	.210	.002**
# of Meaningful Relationships	.376	<.001*
Hours of TV	.022	.702
Hours of Video Games	.012	.848

*Note.* <.05\*, <.01\*\*, <.001\*\*\*.

## Results

### Question 1

Based on the results of Question 1, participants defined loneliness as a feeling that depends on other people in the context of relationships, perception, and proximity. Participants most commonly expressed loneliness as lacking friends and meaningful connections. They expressed that it goes deeper than not being in the presence of other people because it is possible to be lonely when surrounded by people. These definitions align with the definition of loneliness found in the literature.

### Question 2

Out of the 18 variables that were stated to have a potential to link to loneliness our 94 participants gave 335 responses. Table 3 outlines the rank order of these variables as well as the number and percentage that it accounts for. Additionally, the far right hand column details the link to loneliness that participants prescribed to the variable.

### Question 3

A Chi Square test of Independence was run on each demographic to determine statistical significance, however, no statistically significant difference was found in the perceived causes of loneliness among different demographics in any situation.

### Question 4

A multiple regression analysis was performed to predict loneliness scores with items from the SCI. The overall model's predictive ability was analyzed (R<sup>2</sup>) as well as the ability of individual predictors (items from the SCI). Overall, the model had a statistically significant prediction of the variance in loneliness scores, F (23,87) = 12.510, p < .001, R<sup>2</sup> = .635. Additionally, 6 items (fear of rejection, bullying/mistreatment, technology/social media, negative self-talk, # of meaningful conversations, and # of meaningful relationships) from the SCI were statistically significant predictors of loneliness scores in the regression model.

## Conclusions

### Question 1

A word frequency table was generated to measure the most common words participants used when answering this question. The frequency table shows that "feel" was the most commonly used word in this study. This indicates that most participants perceive loneliness as a feeling that people experience more than something that is only physical. Additionally, a thematic frequency table was generated to categorize participants responses into common themes. The most common answer participants gave during the semi-structured interviews was having feelings of lacking friends, lacking social support, rejection, abandonment, and being neglected.

### Question 2

The results show that social anxiety, fear of rejection/insecurity, and grief/loss were the top three variables that contribute to loneliness. Participants perception of an interaction shows that fear of the interaction could contribute to loneliness. This relates to the second perceived causal variable in that insecurity and fear of rejection may make a person afraid of an interaction. The third perceived causal variable is grief/loss, which does not relate to social anxiety and rejection/insecurity. While the first two variables are internal factors, grief and loss are external factors. This shows that the first two variables would need a different intervention than grief and loss.

### Question 3

A Chi Square test was run on each demographic to determine statistical significance. We also grouped the variables into categories such as physical limitations, social influences, personal effects, and external influences, as well as internal and external variables. However, we found no statistically significant difference in the perceived causes of loneliness among different demographics in any situation.

### Question 4

The SCI items explained the majority (63.5%) of the variance in loneliness scores. This indicates that the SCI can be utilized as a strong predictive tool of loneliness and offers support that the SCI is capturing loneliness as well. While only 6 of the 23 items were statistically significant predictors in the model, the items displayed high levels of multicollinearity. Thus, while those 6 items may be the strongest individual predictors of loneliness, certain items may also be useful predictors of loneliness but were given less credit in the model due to the high correlations between predictors.

## Future Directions

**Physiological correlates of loneliness:** Future research can explore how certain physiological factors are associated with loneliness by measuring participants' galvanic skin response (GSR) and cortisol levels.

**Interventions for college students to reduce loneliness:** These results can be used to provide researchers with a better understanding of the underlying causes of loneliness so that effective treatments can be developed alongside university faculty.

**Social media usage and the relationship to loneliness:** Future studies can collect participants' screen time information and analyze the association between social media use and one's self-reported loneliness.

**Mindfulness techniques:** A few studies have suggested that mindfulness may be beneficial in treating loneliness; however, this technique should be tested further as more support is needed to affirm this as a valid treatment.

**Account for multicollinearity in the regression analysis by calculating structured coefficients**