



## Social Anxiety Among First-Generation and Non-First-Generation College Students

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### Abstract

Literature on social anxiety among college students, in particular, first-generation college students is limited. The purpose of this research study was to fill the gap in the literature, study how social anxiety variables are related, distinguish any differences in social anxiety variables that may exist among first-generation and non-first-generation college students, and indicate any gender differences in social anxiety among first-generation and non-first generation college students. The present research study focused on social anxiety in social situations, social anxiety in performance situations, and social anxiety based on cognition. Analyses indicated that a significant difference ( $F(3, 119) = 6.27, p < .001$ ) exists among first-generation and non-first-generation college students in terms of social anxiety in social situations, social anxiety based on performance situations and social anxiety based on cognition; first-generation college students reported an increased level of social anxiety. Findings also indicated that social anxiety variables are related to one another. No significant finding was found in terms of gender differences in social anxiety for first-generation ( $F(3, 62) = .74, p > .005$ ) or non-first-generation college students ( $F(3, 53) = .87, p > .005$ ). This finding contradicts previous literature that states significant differences exist among genders.

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## INTRODUCTION

Social anxiety, also known as social phobia, has become one of the most common mental health disorders with an age onset of early childhood (Kessler et al., 2012). Research has shown that gender differences exist among socially anxious individuals with females being diagnosed more often (Asher & Aderka, 2018; Zetner et al., 2022). Socially anxious individuals can experience physical anxiety symptoms such as blushing or stuttering as well as a distortion of cognition (American Psychiatric Association, 2013; Makkar & Grisham, 2011). According to the American College Health Association, 63% of college students experience a form of excessive anxiety, this includes social anxiety. Evidence suggests that college students with social phobia have a decreased quality of life compared to college students without social phobia, including reduced physical health, mental health, socio-emotional functioning, and communication with instructors (Archbell & Coplan, 2022; Ghaedi et al., 2010). Another factor that can affect college student life is being a first-generation student, defined as an individual who has a parent that did not complete a baccalaureate degree (Janke et al., 2017). Evidence suggests that first-generation college students may have difficulty adjusting to the social environment once arriving to college (Janke et al., 2017; Ricks & Warren, 2021). The focus of the present study was to document whether there is a difference in social anxiety in terms of social situations, social anxiety based on performance situations, and social anxiety based on cognition among first-generation and non-first-generation college students as well as how these variables are related to one another. Gender differences were also studied in terms of first-generation and non-first generation college students considering the social anxiety-related variables. This research study provides a novel prospective by contradicting existing research findings.

### FIRST-GENERATION COLLEGE STUDENTS

According to Redford and Hoyer (2017), a first-generation student is an individual whose parents did not complete a baccalaureate degree. These researchers also indicate that if the individual is living in a single parent household and that parent did not complete a baccalaureate degree, they are still considered first generation even if the absentee parent has a completed degree. First-generation college students make up one-third of college students in the United States (Whitley et al., 2018).

Although there has been an increase in first-generation college students, research has found that they still fall behind in comparison to their non-first-generation counterparts (U.S. Department of Education, 2018). Researchers have stated that the reason behind the high drop-out rate or decrease in overall attendance among first-generation college students is the lack of parental education. A lack of parental education influences the experience of college students in terms of finances or resources provided through their parents (Radunzel, 2021; Saenz et al., 2007). Research has found that first-generation college students have difficulties adapting to the social environment once arriving to college (Pratt et al., 2019; Ricks & Warren, 2021) which leads to an "impaired social identification" and anticipation of academic failure because their parents do not have an educational background (Janke et al., 2017, p. 1).

Research has shown that first-generation college students appear to be at risk for dropping out. Data have shown that first-generation college students are more likely to leave college without returning in comparison to students whose parents attended some college or obtained a degree (Cataldi, Bennett, & Chen, 2018; House et al., 2019). Only about 50% of first-generation college students complete their degree within 6 years of beginning (Cataldi et al., 2018; DeAngelo et al., 2011).

Research that exists on first-generation college students and social anxiety is limited in the field. The literature focuses on first-generation students and matters such as generalized anxiety, test anxiety, trait-anxiety and the ability of appraisal support to decrease anxiety (Gaudier-Diaz et al., 2019; Janke et al., 2017; Keefe et al., 2022). The research on social anxiety has found that there is no

significant difference between non-first-generation college students and first-generation college students (Hood et al., 2020; House et al., 2020; Keefe et al., 2022).

### **SOCIAL ANXIETY**

Social anxiety is a mental health disorder in which an individual perceives that they will be ridiculed on social situations, invoking extreme distress such as fear or anxiety (American Psychiatric Association, 2013, p. 202). According to the Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> edition (DSM-5), individuals diagnosed with social anxiety are afraid to show anxiety symptoms such as blushing, trembling and sweating. Individuals are afraid because they fear being judged, rejected, offending others or being labeled as crazy, stupid, or anxious (American Psychiatric Association, 2013). For a socially anxious individual, the idea of fear or anxiety can outweigh the possibility of completing a social activity. Individuals may experience symptoms prior to the activity in anticipation of the fear or anxiety that will be experiencing. People who have social anxiety lack the ability to function successfully on a personal, social, or occupational level (American Psychiatric Association, 2013, p. 202). Features of those diagnosed with social anxiety consist of being highly submissive which leads to poor body posture, making little to no eye contact, or speaking in a very low voice (American Psychiatric Association, 2013).

Individuals with social anxiety do not only experience physical symptoms as those previously stated but also have difficulty with cognition. For example, those diagnosed with social anxiety have been shown to have negative mental imagery of oneself that is provoked by the fear of being judged by others (Makkar & Grisham, 2011). It is suggested that the negative mental imagery of oneself is what maintains the disorder in those diagnosed (Marczak, 2022; Norton & Abbott, 2016). Socially anxious individuals begin to paint a negative self-image of themselves in which their fears of stuttering or tripping on stage will become true. When a social threat arises, research has shown that individuals diagnosed with social anxiety begin to experience negative cognitions about themselves (Marczak, 2022; Schulz et al., 2008). The literature showed that when socially anxious individuals begin to experience these negative cognitions their social anxiety increases and they begin to avoid social activities (Chiu et al., 2022; Schulz et al., 2008).

When comparing socially anxious individuals and non-socially anxious individuals, those diagnosed with social anxiety have been shown to experience greater negative cognitions in social environments (Kuru et al., 2017; Schulz et al., 2008). Socially anxious individuals also have difficulty understanding others' emotions, beliefs, or intentions (Chen et al., 2020; Hezel & McNally, 2014; Tsuji & Shumada, 2018). Results have shown that socially anxious individuals associate greater intense emotions and overthink what others were thinking and feeling (Hezel & McNally, 2014; Norhizan et al., 2019).

Social anxiety has become one of the most common anxiety disorder among mental health disorders (Gharraee et al., 2018; Kessler et al., 2012; Stein & Stein 2008). The prevalence is 7.1% among U.S. adults (Anxiety and Depression Association of America, 2022) and it is higher among adults between the ages of 18-29 (9.1%). Data show that 38.8% of adults reported being moderately impaired by their social anxiety while 29.9% reported having a serious impairment (National Institute of Mental Health, 2017). Onset has been shown to start very young in childhood into adolescence (Solmi et al., 2022). According to Stein and Stein (2008), among those who will be diagnosed with social anxiety in their lifetime, 50% will be diagnosed by age 11, and 80% will be diagnosed by age 20.

Onset of social anxiety may result from being extremely shy or experiencing social inhibition at a young age, but it may also result from a traumatic event such as being bullied or falling in front of everyone (American Psychiatric Association, 2013). Typically, the traumatic event places extreme distress or humiliation on the individual. However, some individuals may experience that the social anxiety is not induced by a particular event but instead develops slowly over time (American Psychiatric Association, 2013). In adulthood, it is less common for the onset to occur unless it is induced by a

particular event such as life changes due to age or as said earlier due to a stressful/humiliating event. In adults, life changes can include getting divorced or chronic illnesses due to older age.

Experiencing social anxiety can negatively impact an individual's life. As discussed earlier, it impedes their functioning in many areas. Social anxiety is also associated with an increase in school dropouts and a decrease in social activities. Results have shown that students with social anxiety have greater difficulty adjusting to college (Arjanggi & Kusumaningsih, 2016; Luan et al., 2022; Nordstrom et al., 2014). A study conducted by Nordstrom et al. (2014) indicated that this is due to social, personal, emotional, and academic problems caused by the social anxiety that individuals are experiencing. The study showed that social anxiety, self-esteem, and college adjustment accounted for 57% of the variance in regard to retention. Luan et al. (2022) found that as a result of their social anxiety, students' studies, work and lives were impacted due to fear and pain. Socially anxious students are not only at risk for drop out but also experience difficulty adjusting to college and mental health illnesses such as depression and anxiety (Nordstrom et al., 2014; Schry et al., 2012; Zabolski et al., 2019).

In the largest study of college student health known to these authors ( $N = 54,497$ ), the American College Health Association (2019) reported that 29.5% of college students stated that anxiety affected their academic performance and 24% reported being diagnosed or receiving treatment by a professional within the past 12 months. Anxiety was a more common problem than other disorders such as depression, panic attacks, or anorexia (American Health Association, 2019). Although this study did not differentiate which type of anxiety, it is important to note the wide prevalence of anxiety in college students, particularly social anxiety, has been shown to be detrimental to students' daily lives (Bayram & Bilgel, 2008; Filho et al., 2010; Luan et al., 2022; Schry et al., 2012). In one particular study, Liang (2018) showed that socially anxious undergraduate students had greater difficulty in processing information compared to non-socially anxious students when the task was of high difficulty. In another study, Ghaedi et al. (2010) found that socially anxious students were more likely to report a reduction in quality of life as well as lower role functioning in terms of emotion, health, vitality, social functioning, and mental health scores.

#### **GENDER DIFFERENCES AND SOCIAL ANXIETY**

Evidence suggests that there are gender differences in social anxiety. Women are more likely to be diagnosed with a social anxiety disorder than men (Asher & Aderka, 2018). Women are also more likely to have greater prevalence rates of a social anxiety disorder at 12 months and within their lifetime after being diagnosed with the disorder compared to men (McClean et al., 2011). Statistics show that women have a 5.67% lifetime prevalence rate in comparison to men who have a 4.2% (Xu et al., 2012). Xu et al. (2012) conducted a study in which they compared fear in social situations for socially anxious men and women. Results showed that women have greater fear in all of the social situations except for dating. It was shown that socially anxious women tend to have greater panic attacks than socially anxious men. These researchers also compared physical, mental, social and role emotional functioning among participants in which it was shown that socially anxious men had better scores than women. Although socially anxious men are shown to have greater scores in terms of the physical, mental, social and role functioning scales, it was shown that they use alcohol and drugs to relieve the symptoms of their social anxiety.

In terms of seeking treatment, socially anxious women are more likely to go to the emergency room/urgent care or seek a physician than socially anxious men (McClean et al., 2011). Both socially anxious men and women missed a similar amount of days from work due to their mental illness (McClean et al., 2011). Nonetheless, with respect to social anxiety disorder, although women are more prone to developing the disease, its course seems to be similar for men and women (McClean et al., 2011).

## THE PRESENT STUDY

In the present study we focused on how social anxiety variables are related to one another and the differences among first generation and non-first-generation college students in terms of social anxiety based on cognition, social anxiety based on social situations and social anxiety based on performance situations. Gender differences in social anxiety among first-generation and non-first-generation college students were also studied. Evidence from this research can be useful in determining whether non-first-generation college students need more support for social anxiety symptoms, as evidence suggests social anxiety can have deleterious consequences (Ghaedi et al., 2010). To the best of the authors' knowledge this is the first study comparing first-generation and non-first-generation college students social anxiety based on cognition and in different situations.

Based on the aforementioned evidence, the research questions were:

1. How are gender, first-generation versus non-first-generation status, general social anxiety, social anxiety based on performance situations, social anxiety based on social situations, and social anxiety based on cognition related?
2. What are the differences between first-generation and non-first-generation college students in terms of social anxiety based on social situations, social anxiety based on performance situations and social anxiety based on cognition?
3. What are the differences between first-generation female college students and first-generation male college student's social anxiety based on social situations, social anxiety based on performance situations, general social anxiety, and social anxiety based on cognition?
4. What are the differences between non-first-generation female college students and non-first-generation male college student's social anxiety based on social situations, social anxiety based on performance situations, general social anxiety, and social anxiety based on cognition?

## METHOD

### PARTICIPANTS

The study consisted of 134 participants who were recruited from a college campus' psychology subject pool and Mturk. Of the 134 participants, 53% were men and 47% were women. Seventy-four of the individuals identified as being a first-generation college student and the remainder were non-first-generation college students. Participants between the ages of 18-23 made up 50.8% of the population, 24-29 made up 34.2%, and participants older than 30 made up 14.5% of the population. Mean age of participants was 24.7 years old (SD = 6.42). Participants who identified as freshmen made up 20.1% of the population, sophomores were 22.4%, juniors were 14.9%, and seniors were 42.5%. Thirty-five point eight of the participants identified as an international student and the rest of the population were non-international students. Participants who identified as White made up 51.5% of the participant pool, Black/African American participants were 4.5%, American Indian/Alaska Native participants were 1.5%, Asian participants were 39.9%, Hispanic participants were 7.5%, and participants who identified as other were 5.2%. Participants between household incomes of \$0- 29,999 were 43.2% of the participant pool, \$30,000- 59,999 were 28.4%, \$60,000- 89,999 were 14.2%, and \$90,000 and over were 14.1%.

### PROCEDURES

An online survey platform will be used to collect data from participants. Prior to publishing the online questionnaire on Qualtrics and Mturk, the research study was approved by the Institutional Review Board of the university where the data were collected. Participants were recruited from a

psychology subject pool and Mturk. If participants were from the subject pool, they received course credit for taking part in the study, with alternate means of earning credits specified in course syllabus. If participants took the survey through Mturk they received a monetary amount to complete the survey after it had been published to the website.

## MEASURES

A demographics questionnaire was used to gather information about students' age, gender, year in college, status regarding being first-generation versus non-first generation college student, status as international student, socioeconomic status, and ethnicity/race. Two questions were used to check for validity purposes: picking a number and favorite color. To measure for social anxiety, the following scales were used: Social Phobia Scale (Liebowitz, 1987) and the Brief Fear of Negative Evaluation Scale (Leary, 1983). Both test measures remain relevant and applicable in present day to measure for the construct.

### **SOCIAL PHOBIA SCALE**

The Liebowitz Social Phobia Scale-Self Report which is a measure of social anxiety (Liebowitz, 1987), consists of 24 items with two subscales; social situations (11 items) and performance situations (13 items). Participants are measured for anxiety/fear or avoidance in regard to performing everyday actions. The scale is rated on a 0-3 for both anxiety/fear and avoidance. However, for fear/anxiety the responses are; 0 being "none," 1 being "mild," 2 being "moderate," and 3 being "severe." For avoidance, the responses are; 0 "being never," 1 being "occasionally," 2 being "often," and 3 being "usually." Participants are asked questions such as how they feel about "telephoning in public," "returning goods to a store," or "expressing a disagreement or disapproval to people you don't know very well." The Liebowitz Social Phobia Scale –Self Report has been shown to have a high internal consistency across all scales;  $\alpha = .79$  or higher (Baker et al., 2002). According to Fresco et al. (2001), the internal consistency for patients was all above an alpha of .82 for total score as well as subscales. Convergent validity for the Liebowitz Social Phobia Scale has also showed good moderation; total scores when compared to the Social Interaction Anxiety Scale and Social Phobia Scale were above a .61. Test-retest reliability was also shown to be high in terms of total score as well as subscales; all were above a .75 except for performance subscale which had a .53 (Baker et al., 2002). Analysis for the present study showed a high internal consistency for both the total score ( $\alpha = .97$ ) and subscales ( $\alpha = .95$ ).

### **THE BRIEF FEAR OF NEGATIVE EVALUATION SCALE**

The Brief Fear of Negative Evaluation Scale (BFNE; Leary, 1983) is a revised measure of the Fear of Negative Evaluation scale. The Brief Fear of Negative Evaluation Scale consists of 12 items that focuses on the cognitive aspects of social anxiety such as thoughts of being ridiculed. The scale is rated on a 1-5, 1 being "not at all characteristic of me," 2 is "slightly characteristic of me," 3 is "moderately characteristic of me," 4 is "very characteristic of me," and 5 is "extremely characteristic of me." The scale asks questions such as "I am frequently afraid of other people noticing my shortcomings," "I rarely worry about what kind of impression I am making on someone," or "I am afraid that people will find fault with me." The Brief Fear of Negative Evaluation Scale has been shown to have high internal consistency of .90 and .81 (Rodebaugh et al., 2011; Weeks et al., 2008). The test-retest reliability was shown to be high as well;  $r = .94$ ,  $p < .001$  (Collins et al., 2005). The present study showed a high internal consistency for total score ( $\alpha = .85$ ).

## DATA ANALYSIS

Descriptive statistics were first conducted to find information regarding age, gender, race/ethnicity, year of college, household income, international student status and status regarding first-generation versus non-first generation (see Table 1 for descriptive statistics). A Cronbach's alpha was calculated to find the internal consistency of the Social Phobia Scale, The Social Phobia's Scale two

subscales; Performance Situations and Social Situations, and The Brief Fear of Negative Evaluation Scale for the current sample. A Point-Biserial Correlation was conducted to find the correlations among the variables in terms of gender, first-generation versus non-first-generation status, general social anxiety, social anxiety based on performance situations, social anxiety based on social situations, and social anxiety based on cognition. Finally, a series of MANOVAs were conducted to answer three of the research questions in this study. A Tukey’s test for post-hoc analysis was conducted for each MANOVA to explore significant differences among the variables.

**Table 1.** Descriptive Statistics

	Percentage of population (N= 134)
<b>First-Generation Status</b>	
First-Generation	55%
Non-First-Generation	45%
<b>Gender</b>	
Female	47%
Male	53%
<b>Age</b>	
18-23	50.8%
24-29	34.2%
30 and older	14.5%
<b>College Year</b>	
Freshmen	20.1%
Sophomore	22.4%
Junior	14.9%
Senior	42.5%
<b>Race/Ethnicity</b>	
White	51.5%
Black/African American	4.5%
American Indian/Alaska Native	1.5%
Asian	39.9%
Hispanic	7.5%
Other	5.2%
<b>Household Income</b>	
\$0-29,999	43.2%
\$30,000-59,999	28.4%
\$60,000-89,999	14.2%
\$90,000 and over	14.1%

## RESULTS

In order to answer the first research question, a point-biserial correlation analysis was conducted which showed no significant correlation between gender and first-generation versus non-first-generation status, general social anxiety, social anxiety based on social situations, social anxiety based on performance situations, and social anxiety based on cognition. There was a significant negative correlation between first-generation versus non-first-generation status and social anxiety ( $r(132) = -.36, p < .001$ ), social anxiety based on social situations ( $r(132) = -.33, p < .001$ ), social anxiety based on performance situations ( $r(132) = -.36, p < .001$ ) and social anxiety based on cognition ( $r(132) = -.27, p < .005$ ). In other words, students who were not first-generation reported experiencing lower social anxiety whereas first-generation students reported an increased level of social anxiety.

General social anxiety showed a significant correlation among social anxiety based on cognition ( $r(132) = .70, p < .001$ ), social anxiety based on performance situations ( $r(132) = .98, p < .001$ ) and social anxiety based on social situations ( $r(132) = .98, p < .001$ ). Social anxiety based on cognition showed a significant correlation among social anxiety based on performance situations ( $r(132) = .69, p < .001$ ) and social anxiety based on social situations ( $r(132) = .69, p < .001$ ). Lastly, social anxiety based on social situations and social anxiety based on performance situations were significantly correlated as well ( $r(132) = .92, p < .001$ ). A significant correlation among these variables shows that individuals who are reporting levels of social anxiety will also report levels of social anxiety based on cognition, social anxiety based on performance situations, and social anxiety based on social situations (see Table 2 for data on correlations among the study variables).

**Table 2.** Correlations Among Gender, General Social Anxiety, Social Anxiety Based on Social Situations, Social Anxiety Based on Performance Situations, Social Anxiety Based on Cognition and First-Generation versus Non-First-Generation Status

	1	2	3	4	5	6
1-Gender	--	-.03	-.01	-.03	-.07	.11
2-General Social Anxiety		--	.98*	.98*	.70*	-.36*
3-Social Anxiety Based on Social Situations			--	.93*	.69*	-.37*
4-Social Anxiety Based on Performance Situations				--	.69*	-.36*
5-Social Anxiety Based on Cognition					--	-.27*
6-First-Generation Status Versus Non-First-Generation Status						--

In order to answer the last three research questions a series of MANOVA's were conducted. The first MANOVA indicated that there was a statistically significant difference with first-generation college students versus non-first-generation college students as the independent variable and social anxiety based on social situations, social anxiety based on performance situations, and social anxiety based on cognition as the dependent variable ( $F(3, 119) = 6.27, p < .001$ ; see Table 3).

**Table 3.** MANOVA Results for First-Generation (FG) versus Non-First-Generation (NFG) College Students and Social Anxiety Based on Social Situations, Social Anxiety Based on Performance Situations and Social Anxiety Based on Cognition

	Wilks Lambda	df	F	P	Partial η <sup>2</sup>
FG versus NFG Status Across Social Anxiety Based on Social Situations, Social Anxiety Based on Performance Situations, and Social Anxiety Based on Cognition	.863	3, 119	6.27	.001*	.14
FG versus NFG Status and Social Anxiety Based on Social Situations		1, 55	14.68	.000*	.11
FG versus NFG Status and Social Anxiety Based on Performance Situations		1, 55	18.77	.000*	.13
FG versus NFG Status and Social Anxiety Based on Cognition		1, 55	9.97	.002**	.08

Note. <sup>a</sup> \* $p < .001$  \*\* $p < .005$

First-generation versus non-first-generation college student status had a significant effect on social anxiety based on social situations ( $F(1,121) = 14.68, p < .001$ ), social anxiety based on performance situations ( $F(1, 121) = 18.77, p < .001$ ), and social anxiety based on cognition ( $F(1,121) = 9.97, p < .005$ ). These results indicate that the status of first-generation versus non-first-generation is related to the level of social anxiety based on social situations, social anxiety based on performance situations and social anxiety based on cognition. Identifying as a first-generation college student can increase the levels of social anxiety in social anxiety based on social situations, social anxiety based on performance situations, and social anxiety based on cognition. Mean statistics showed that first-



generation college students reported higher scores for social anxiety based on social situations, social anxiety based on performance situations, and social anxiety based on cognition.

A second MANOVA was conducted for first-generation college students with gender as an independent variable and social anxiety based on social situations, social anxiety based on performance situations, general social anxiety and social anxiety based on cognition as the dependent variables; there was no statistical significance ( $F(3, 62) = .74, p > .005$ ). A third MANOVA was conducted for non-first-generation college students with gender as an independent variable and social anxiety based on social situations, social anxiety based on performance situations, general social anxiety and social anxiety based on cognition as the dependent variables; there was no statistical significance ( $F(3, 53) = .87, p > .005$ ). A non-statistical significance for gender and the dependent variables suggests that there is no difference among males/females in their social anxiety based on performance situations, social anxiety based on social situations, general social anxiety, and social anxiety based on cognition for either first-generation and non-first-generation college students.

## DISCUSSION

The purpose of this research study was to distinguish whether a difference exists in certain social anxiety variables (i.e., social anxiety based on social situations, social anxiety based on performance situations, and social anxiety based on cognition) among first-generation college students and non-first-generation college students. Current literature has focused on social anxiety in general without taking into consideration cognitions or different situations that can invoke social anxiety among first-generation college students. The present study also focused on how social anxiety variables are related to one another and gender differences that may exist in first-generation college students and non-first-generation college students in terms of the social anxiety variables.

The findings in this study indicated that a significant difference exists among first-generation college students and non-first-generation college students when looking at the following social anxiety variables: social anxiety based on social situations, social anxiety based on performance situations and social anxiety based on cognition. Students who reported being a non-first-generation college student reported lower anxiety scores whereas reporting as a first-generation college student increased anxiety scores. This finding contradicts previous literature stating there is no difference in social anxiety among first-generation college students and non-first-generation college students (House et al., 2020; Hood et al., 2020). First-generation college students reported higher averages when answering questions that related to experiencing social anxiety in social situations (i.e. talking to people in authority, going to a party, and talking with people you don't know very well, etc.), and social anxiety in performance situations (i.e. telephoning in public, participating in small groups, and eating in public places, etc.).

The findings from the present study also indicated that social anxiety is related to other social anxiety variables. If an individual is experiencing an increase in any one of the social anxiety variables then there will be an increase in the other variables (general social anxiety, social anxiety based on cognition, social anxiety based on performance situations, and social anxiety based on social situations) which can be a reason as to why first-generation college students produced higher averages across all the social anxiety variables.

The implications of these research findings are essential to first-generation college students and their experience when attending college as it provides a new understanding to their mental health. The contradictory results of the present study can add value to the current literature on retention rates among college students. It has shown that a majority of first-generation college students are more likely to drop out of college or take longer to complete their degree when compared to non-first-generation college students (Cataldi et al., 2018; DeAngelo et al., 2011). According to the present study, first-generation college students are experiencing high rates of social anxiety in activities that

are at the core of what the college experience is (i.e. social anxiety based on performance situations and social anxiety based on social situations); this can be an explanation as to why they are dropping out or taking longer to complete college degrees. Identifying as a first-generation college student predisposes an individual to negative expectations of the college life (Janke et al., 2017, p. 1), but when adding in social anxiety, individuals who identified as socially anxious regardless of first-generation status were found to have difficulty adjusting to the college environment and had high drop-out rates as well (Pratt et al., 2019; Ricks & Warren, 2021). The results from this present study can give insight to new variables (social anxiety based on cognition or performance/social situations) that could be a contributing factor to the low retention rates among first-generation college students as well as the social impairment they experience on campus. The findings from this research study can extend the field of research on socially anxious individuals, in particular, first-generation college students who are experiencing a double negative effect on their experience by identifying as socially anxious and a first-generation college student. The present study supported a positive correlation between social anxiety and social anxiety based on cognition, social anxiety based on performance situations, and social anxiety based on social situations, which can lead researchers to explore more research on why they are related or whether any differences exist.

Findings also indicated that first-generation college students experience greater negative cognitions associated with social anxiety (i.e., I am frequently afraid of other people noticing my shortcomings; I rarely worry about what kind of impression I am making on someone; or I am afraid that people will find fault with me). Research is limited in terms of looking specifically at first-generation college students and social anxiety based cognition variables; however, some studies have found that individuals who are socially anxious tend to experience greater negative cognitions than non-socially anxious individuals (Kuru et al., 2017; Schulz et al., 2008). These results can be linked to the present study in supporting a similar result while solely focusing on first-generation college students only. As a result of these negative cognitions, socially anxious individuals are more likely to avoid participating in social situations which can explain the high averages on the social anxiety based on cognition, social anxiety based on social situations, and social anxiety based on performance situations. Given the limited amount of information on first-generation college students and social anxiety based on cognition, these results allow researchers to understand a contributing variable for how these negative cognitions affect the target population. These results also bridge a gap that exists in literature in particular to social anxiety based cognitions and first-generation college students. These results can also help those diagnosed with social anxiety because it provides an image of what symptoms a health professional should check. The results indicate that social anxiety symptoms do not only increase in social and performance situations but also in social anxiety based on cognition. Therefore, these results can assist in educating health professionals on what other symptoms are related to an increase in social anxiety.

In this study, there was no significant difference when looking at gender in relation to the other social anxiety variables or first-generation versus non-first-generation status. These results contradict previous research findings in which gender differences are related to social anxiety (Asher & Aderka, 2018; Mclean et al., 2011; Thompson et al., 2019). Research suggests that women are more likely to be diagnosed and have higher life-time prevalence (Asher & Aderka, 2018; Mclean et al., 2011). A non-significant result in this study could be due to having a small sample size ( $N = 134$ ).

Although rates of lifetime prevalence are statistically different between men and women (Xu et al., 2012), they both tend to show similar symptoms such as experiencing social anxiety when speaking in class, performing in-front of other people, speaking in-front of other people, experiencing comorbid disorders, and missing days from work due to mental illness when being diagnosed with social anxiety (Mclean et al., 2011; Xu et al. 2012). The manifestation of similar symptoms among both genders is consistent with the findings of the present study. Average means of responses were similar when looking at total scores for the scales which can be interpreted that males and females are experiencing

the same social anxiety symptoms in social anxiety based social situations, social anxiety based performance situations, and social anxiety based on cognition.

## **CONCLUSION**

The results of the study provide a new point of view when looking at social anxiety differences among first-generation and non-first-generation college students. More specifically an advanced understanding on social anxiety based cognitions and social anxiety based on different situations (performance and social situations). Given that first-generation college students are an under-represented population in social anxiety research, the implications of these findings are essential in helping clinicians and counselors. These findings allow health care professionals to gain awareness around a marginalized population. More information on first-generation students can allow counseling services to cater certain treatments or interventions to the needs of first-generation college students. Based on the results of the present study, it is evident that first-generation college students are experiencing a greater social anxiety based on cognition and in different situations. Not only is this information essential for creating interventions and/or treatments but also for outreach programs. Given the limited research on social anxiety and first-generation college students, clinicians/counselors might not be aware that this target population is struggling with social anxiety since recent literature has shown no differences. The results from this study can create a stepping stone for expanding research in first-generation college students to gain a better understanding while also looking at other variables in conjunction with social anxiety such as coping mechanisms, alcohol consumption, protective barriers, and/or comorbidity.

## **LIMITATIONS**

The present study had limitations which should be addressed in future research. The first limitation is the use of self-report measures which can result in purposeful distortion. There was no collection of identifiable information from participants, however, participants may have changed their answers due to embarrassment of experiencing social anxiety. Self-report measures via online technology can also result in error when reading the questionnaires due to self-interpretation and no guidance of the researcher. For example, an estimated average of 100 participants were removed from the data due to incorrectly answering of the questionnaires and failing validity checks. Another limitation of this study was that using MTurk as a recruitment process can provide a limitation toward these data. Those on Mturk who have chosen to partake in the survey may falsely indicate their demographics which can lead to inaccurate data for participants. Results for the questionnaires may also be influenced since participants are receiving compensation for their responses. Participants taking the survey to receive compensation in return may go through the survey more quickly and without much attention so that they receive the money. In terms of demographics, half of the participants identified as Caucasian and 40% as Asian which can affect the generalizability of the study to other racial/ethnic groups.

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Ethics approval and consent to participate: An ethics approval was obtained from the Pennsylvania State University's Institutional Review Board before any data was collected. Students needed to give consent before they could complete the online survey.

## **AUTHOR CONTRIBUTIONS**

Each author contributed 50% to the study. All authors whose names appear on the submission made substantial contributions to the conception and design of the work, and the acquisition, analysis, or interpretation of data. Both authors drafted the work and revised it critically for important intellectual content and approved the version to be submitted to this journal. Both

authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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