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## Social Anxiety Screening and Associated Factors Among University Students

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Social Anxiety Screening and Associated Factors Among University Students

Kathleen Prendergast

DNP Scholarly Project Committee

Dr. Mary Ellen E. Roberts

Dr. Kimberly Conway

Dr. Dianne Agüero-Trotter

Submitted in partial fulfillment of the Requirements for the degree of

Doctor of Nursing Practice

Seton Hall University

2021

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College of Nursing  
Graduate Department

## APPROVAL FOR SUCCESSFUL DEFENSE

Kathleen Prendergast has successfully defended and made the required modifications to the text of the DNP Final Scholarly Project for the Doctor of Nursing Practice during this Fall, 2021

### Final Scholarly Project COMMITTEE

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Dr. Mary Ellen Roberts

Date

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Dr. Kimberly Conway

Date

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Dr. Dianne Aguero-Trotter

Date

## **Dedication**

I dedicate this work to my husband, Mark Tomkins, who has been consistently supportive and encouraging. He has listened to the challenges and demands involved with the entire DNP process and this DNP Scholarly Project. I also want to mention all my children, Melissa, Matthew, Bryan, and David who have been so enthusiastic about my academic endeavors and provided ongoing support.

## **Acknowledgements**

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Dr. Mary Ellen Roberts has been instrumental all through the DNP Program and the project. She never faltered in providing her support and guidance. Her diligence as the Director of the Doctor of Nursing Practice Program during a pandemic cannot be overstated.

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Finally, I would like to acknowledge Dr. Kim Conway for her expertise in reviewing the project and helping with its final presentation.

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### **Abstract**

Social anxiety is a type of anxiety triggered by social situations whereby the individual feels scrutinized by others, and which may contribute to avoidance of certain situations. This avoidance can interfere with personal, academic, and career endeavors. Cognitive behavioral therapy can help manage social anxiety. However, social anxiety is often underrecognized and under treated. A survey with the Liebowitz Social Anxiety Scale (LSAS) was disseminated to identify and address this need among students in a large Northeastern university in the United States. The study is valuable as a pilot study. There was a small response rate for participation in the study, but the findings did indicate some possible trends. Data interpretations suggest females were more likely to take the survey and had higher scores on the LSAS as compared to males. Other findings indicated that students majoring in biological science scored higher than students compared to other majors. Fear and avoidance for acting, performing, or giving a talk in front of an audience scored the highest by most of the respondents when compared to all other situations for social anxiety. Future studies to guide interventions are warranted.

Key words: social anxiety, social anxiety disorder, university students, college students and learning

### **Background**

The mission of universities is to promote learning. Social anxiety can create barriers among university students that impairs both academical and social functioning. Social anxiety is often under identified and undertreated. Social anxiety can interfere with specific activities necessary for university students such as making presentations, collaborating with peers and professors, and test taking. Additionally, social anxiety can lead to avoidance of social situations and feelings of isolation. In worse cases, social anxiety can contribute to depression and other mental health issues. According to the Center for Collegiate Mental Health (2020), anxiety has been reported to be one of the major mental health concerns by students. In fact, social anxiety in university settings steadily increased 25% between 2010 to 2019 (Center for Collegiate Mental Health, 2020). Universities should take steps to reduce barriers and proactively support those students with mental health concerns. For instance, university students are encouraged to seek help through counseling centers found on most universities. Utilization of mental health resources can help universities fulfill their mission.

Factors that contribute to social anxiety are complex. No single factor accurately explains the etiology of social anxiety. Neurological technologies support the concept that social anxiety has a neurological basis (Furmark, 2009; Marazziti et al., 2015). Spence and Rapee (2016) suggest that there are multiple variables contributing to social anxiety, including environmental or genetic pre-disposition. Regardless of the etiology, there are various interventions to managing social anxiety. To utilize these interventions, identification of the social anxiety must occur. Providing the university with an opportunity to screen for social anxiety in university students can facilitate the identification and subsequent use of interventions to address it. This scholarly project provided an opportunity for this screening and sought to increase knowledge

about the prevalence of social anxiety and the associated factors which would inform future projects.

### **Definition of Terms**

#### **Anxiety**

Anxiety is described as “anticipation of a future threat” (American Psychiatric Association, 2013, p.189). The Diagnostic and Statistical Manual, Fifth Edition (American Psychiatric Association) classifies anxiety disorders as separation anxiety, selective mutism, specific phobia, panic disorder, agoraphobia generalized anxiety disorder, substance/medication-induced anxiety disorder, anxiety disorder due to another medical condition, other specified anxiety disorder, unspecified anxiety disorder, and social anxiety disorder. These disorders share common features. Anxiety symptoms are associated with physical complaints such as muscle tension and can lead to avoidant behaviors (American Psychiatric Association).

#### **Social Anxiety**

Social anxiety disorder is described in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition as “Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others” (American Psychiatric Association, 2013, p. 203). Social interactions, being observed, and performing in front of others are examples where an individual may experience social anxiety. An individual may fear that they will be negatively evaluated by others and often will avoid certain situations. The fear of being evaluated is out of proportion to the situation. The anxiety and avoidance can lead to distress or social or occupational impairments. The fear or anxiety may be limited to public speaking or performing in public (American Psychiatric Association, 2013).

For this scholarly project, students were invited to participate in a survey using the Liebowitz Social Anxiety Scale. Participants may not have met all the requirements for a formal diagnosis of social anxiety disorder described in the DSM-5. However, they were able to answer a list of questions which would provide a score rating their social anxiety and level of avoidance. The participants were informed that the screening was designed to provide helpful information but was not a substitute for receiving a diagnosis from a trained mental health professional.

### **Description of the Project**

This DNP Scholarly Project was a quality improvement initiative. The project provided a large private northeastern university in the United States the opportunity to screen for social anxiety among its student body. Following approval by the University, the project director recruited students via the university's weekly and monthly email newsletter to electronically participate in an anonymous Qualtrics survey (See Appendix A). Inclusion criteria was limited to university students at a large Northeastern university who were over the age of 18 years old. Exclusion criteria were students under age 18, prisoners, illiterate, or individuals with limited or no English language proficiency. Participation was open for a two-week period in the beginning of the Fall 2021 semester. Completing the survey was expected to take approximately 20 minutes and participation was voluntary. There was no compensation for participants. All data were collected anonymously. The data did not contain any identifiers that could link the data to a specific participant in accordance with HIPAA and Common Rule criteria. Respondents also provided demographic data. The anonymous data were exported to an Excel spreadsheet and SPSS Statistical Software was used to analyze the data. All data was stored on a USB drive in a secure location.

All students provided consent to participate (See Appendix B) prior to seeing any of the survey questions. The survey consisted of 10 demographic questions (See Appendix C) followed by the Liebowitz Social Anxiety Scale (LSAS). The LSAS was a 24-item, self-rated scale used to assess how social anxiety plays a role in an individual's life across a variety of situations (See Appendix D). Dr. Michael R. Liebowitz, a psychiatrist and researcher, developed the LSAS. The total score on the LSAS indicates the combined score of the severity of fear of social anxiety and the degree of avoidance. The LSAS was chosen because of its high reliability and validity for measuring social anxiety as indicated by Heimberg et al. as early as 1999. After completing the LSAS, participants were provided with links for additional information about social anxiety and university counseling services.

### **Purpose of the Project**

The purpose of the project was to increase student identification of social anxiety so options to manage it could be identified. Education about social anxiety and treatment can improve academic functioning, increase social interactions, and improve quality of life. The demographic information obtained by the survey was intended to increase the body of knowledge about social anxiety among university students and help inform future projects. Specific practice questions that the project attempted to address were:

1. What is the prevalence of social anxiety disorder as measured by a combined LSAS score of 30 or greater among university students?
2. What demographic factors in university students are associated with higher scores on the Liebowitz Social Anxiety Scale?
3. Is there differences between first year university students' scores on the Liebowitz Social Anxiety Scale compared to upper-level students' scores?

### **Goals and Objective**

The goals of the project were to 1) increase identification of social anxiety among university students at a large Northeastern university in the United States, and 2) to increase knowledge about the prevalence and associated factors related to social anxiety among this population.

### **Significance**

The mission of the University is to enhance and support the holistic development of the students by providing students with a dynamic educational environment (Student Support Services, 2020). For the university to fulfill its mission, it must view students in a holistic manner and address factors that are barriers to the educational experience. Holistic manners include the physical health and the mental health. While it is generally recognized that physical health is important to maintain as poor health can interfere with learning (Raspberry, 2011), mental health issues, such as anxiety, are now being recognized and viewed as an impediment to learning (Robinson, 2013). Both physical impairment and mental health impairment negatively contribute to the social and academic life of the university student. Although it has not been as widely recognized as general anxiety, social anxiety does indeed have a direct impact on university students' academic performance and quality of life (Gultekin & Dereboy, 2011) and is commonly under identified and underdiagnosed (Wiltink et al., 2010).

A dearth of information exists regarding the prevalence of social anxiety among university students, not only in the United States, but in other countries as well. Some literature reports that first year students may experience more social anxiety compared to higher-level undergraduate students (Desalegn et., 2019). This project seeks to provide additional information to confirm the strength of these findings. If first year students are at higher risk, then future

interventions can be tailored to meet the needs of this population. Identifying other demographic variables associated with higher scores for social anxiety is equally important. Through such identification, the opportunity to develop interventions exists. University leaders must be aware of these trends and interventions to full the mission.

## **Literature Review**

### **Search Strategy**

Several database resources were used to identify relevant research related to the prevalence of social anxiety disorder in university students. The resources included Pubmed, Google Scholar, CINHL, and APA Psycinfo. Key words in this review included social anxiety, social anxiety disorder, university students, and college students and learning. There were no experimental or quasi-experimental studies retrieved related to this specific search, only cross-sectional research designs. All twelve studies retrieved were relevant to the question of prevalence of social anxiety in university students and were published in the past 10 years. Notably, all the studies that met these criteria were conducted outside the United States.

### **Study Characteristics**

Sample size varied by researcher and study. The range of sample sizes included a low of 111 students (Zukerman et al., 2019) a medium range of 2,919 (Rabie et al., 2018), and a high range of 5,126 (Cheng et al. (2017). Methodology varied among the studies. No researcher conducted a randomized study with a control group. While randomized studies with control groups are the gold standard, such studies cannot be performed on this top. Therefore, it was noted that researchers of the various students did attempt to achieve some level of representativeness. Taken together, sample size and methodologies, the two approaches do yield valuable information about the topic.

Each investigator acquired basic demographic information from the participants such as age, gender, and marital status. Yet, in some instances, more specific data was collected. Rabie et al. (2018) gathered data about the student's place of birth, place of origin, employment, number of siblings, BMI, faculty, year at the university, past medical and psychiatric history, family history, smoking status and use of illegal drugs. Hakami et al. (2017) gathered data about family history, but focused on birth order, perceived family income and housing situation. Joseph et al. (2018) included data about perception of socioeconomic status, and substance use, but also acquired more specific data on family history of anxiety disorders, perceptions toward their body image and any domestic violence at home, history of academic failure, type of parenting, history of bullying, and their preferred method of communication with friends and family.

### **Screening Tools**

The screening tools for social anxiety varied among the studies. Rabie et al. (2018) used a very complicated method by first screening with a DSM-IV adapted assessment for Social Anxiety Disorder. To reduce bias, an observed rate further assessed the students using the BSPS as it was hypothesized that participants may not accurately assess themselves for social phobia symptoms. The study by Hakimi et al. (2017) used two separate tools to assess for social anxiety, the Social Phobia Inventory, and the Liebowitz Social Anxiety Scale. The study by Joseph et al. (2018) only used one tool, the Social Phobia Inventory. Other researched used other screening tools to assess for predictive factors and to assess the effect of social anxiety in various domains. Hakimi et al. (2017) included the Sheehan Disability Scale to assess disability due to social anxiety disorder and the WHO Quality of Life-BREF questionnaire to assess the quality of life. Joseph et al. (2018) used the Quality-of-Life Enjoyment and Satisfaction Questionnaire.



### **Social Anxiety Disorders**

All the studies had subjects that demonstrated social anxiety in various percentages of prevalence. Hakami et al. (2017) reported that 25.8% students screened positive for social anxiety whereas Joseph et al. (2018) found 37.6% participants with social phobia. Rabie et al., (2018) reported significant findings from using the BSPS instrument given 44.1 % reached the threshold for social phobia with a score  $>20$ . In a more recent study, investigators identified a prevalence of 32.8% (Reta et al., 2020).

Investigators have explored predictive factors for developing social anxiety. According to some studies, predictive factors associated with social anxiety included the female gender (Dell'Osso et al., 2014; Rabie et al., 2018). However, in the study by Hakami et al. (2017), 25.8% of the participants screened positive for social anxiety disorder and were evenly distributed among males and females. Being a medical student also was reported as a predictive factor in two studies (Rabie et al.; Reta et al., 2020). Chang et al, (2017) identified major predictors of social anxiety symptoms as being an undergraduate, being a nonsmoker, poorer social support, internet addiction, and less altruistic behavior, suicidal thoughts, and poor sleep.

Hakami et al.'s study (2017) examined birth order of siblings and demonstrated a statistically significant difference ( $p < .05$ ). Firstborns were less likely than middle children to have social anxiety disorder. There was no significance regarding other demographics such as gender, faculty type, family size, perceived family income, or housing type. Neither were age or marital status significant. However, it should be noted that the participants were all generally young and single, a finding that is consistent with university student demographic.

Gültekin and Dereboy conducted a study in 2007 to compare academic performance between students with and without social anxiety using self-reported data. They published the results in 2011 and concluded that there was not a significant difference academic performance. Other authors contradict these findings. Studies by Russell and Topham (2012) and Brook and Willoughby (2015) demonstrated that social anxiety had a significant negative relationship with academic achievement. Djidonou et al., (2016), in a study of 360 students from the University of Parakou, also identified a lower academic performance with 57.1 % of the population with social anxiety. Although there was a low sample size (n=111), a negative correlation was identified between university students with high social anxiety (without autism spectrum disorder) and lower grades in a later study by Zukerman et al. (2019).

### **Situations Provoking Social Anxiety**

Public speaking can provide social anxiety. In one study, authors identified that speaking in front of a crowd was the second highest phobia and was present in 9.2 % of the respondents (Al-Naggar et al., 2012). Likewise, Hakami et al. (2017) reported that acting, performing, or giving a talk in front of an audience were the most distressing symptoms. These are standard requirements for university students.

### **Severity of Social Anxiety**

Besides these academic related issues, in the study by Dell'Osso et al. (2014) as the scores for social anxiety increased, the severity of symptoms increased and were associated with overall functional impairment. Other areas of health and well-being were reported to be diminished due to social anxiety (Hakami et al.2017; Joseph et al.2018). In addition, Djidonou et al. (2016) reported that alcohol (23.8%) and anxiolytics (9.5%) were used to reduce the social anxiety symptoms which poses additional health concerns.

### **Synthesis of Findings**

A significant lack of clarity regarding the operational definition of social anxiety was lacking in all the studies. Social anxiety, social anxiety disorder, social phobia, and social phobia symptoms were all terms which were used. The American Psychiatric Association (2013) in the Diagnostic and Statistical Manual of Mental Disorders (5th ed.) provides very clear criteria for diagnosing social anxiety disorder. The only study that attempted to approach these criteria was done by Rabie et al (2018). The studies are similar because they were all completed at universities outside the United States. This may be a consideration when applying the data to students in the United States as the findings may not be generalizable. All the studies had the same research design, a cross-sectional design. They used similar methods for recruiting participants. They did not provide for any control groups. Several studies had a very high number of participants (Rabie et al. 2018). This increases the potential for the study to be representative of the population (Witte & Witte, 2017).

Other than the observer screening with the BSPS utilized by Rabie et al. (2018), all the data was obtained by self-reports. Additionally, there were limited controls on how the tools were administered. This inconsistency can contribute to confounding factors and diminish the value of the results (Witte & Witte, 2017).

One of the most important similarities within the studies is that they all identified a significant prevalence of university students with social anxiety, ranging from 10.5% (Hakami et al., 2017) to 44% (Rabie et al., 2018). Thirteen percent of the students were undiagnosed before being screened in the study by Joseph et al. (2018). The prevalence is significant enough to warrant screening for social anxiety and referring for appropriate services to manage the symptoms. Two of the research studies (Joseph et al., 2018; Rabie et al., 2018) expressively

recommended screening activities to identify university students with social anxiety and to refer to services to minimize the disabling effects.

The COVID pandemic starting in 2020 led to government mandated social distancing and, in many situations, actual quarantine. The need for social distancing required for safety was promoted in the media and fear of contracting the virus was common. There is limited research about the effects of social distancing on social anxiety at the time of this study, particularly for university students in the United States. However, in a recent study by Arad et al. (2021) results show that students with social anxiety maintained higher symptoms of social anxiety during the pandemic compared to the previous year.

### **Project Methodology**

#### **Theoretical Framework**

This project has been developed based on theoretical concepts which pose that those individuals with social anxiety have the potential to manage or reduce their anxiety in social situations using cognitive techniques. The initial step for any cognitive awareness is the opportunity for the individual to identify their symptoms or behavior. Therefore, the first step in the process would be the identification of social anxiety. Providing a screening tool such as the LSAS can help students self-assess for social anxiety and rate the severity of their symptoms. Evidence consistent with Beck's model of cognitive formulation of anxiety (and depression) supports the effectiveness of cognitive therapy with "...reduced activation of the amygdalohippocampal subcortical regions implicated in the generation of negative emotion and increased activation of higher-order frontal regions involved in cognitive control of negative emotion" (Clark & Beck, 2010, p. 418). More recent neuroscience research also supports the use of cognitive techniques in the treatment for social anxiety disorder (Haller et al., 2015).

Providing tools for individuals to evaluate health issues is consistent with cognitive learning theories. These theories include aspects of comprehension, memory, and application which help the individual apply new information and encourage the individual to develop problem-solving skills. In this case, learning about social anxiety allows the individual to identify the extent of their social anxiety and supports the opportunity to learn skills to manage social anxiety.

### **Risk Analysis**

A SWOT analysis was used to develop this initiative. A SWOT analysis is a technique to assist in identifying internal strengths and weaknesses and external opportunities and threats when evaluating the effectiveness or competitiveness of an organization or for planning projects within an organization (Ifediora, 2014).

### ***Strengths***

Within University Student Services and Counseling and Psychological Services, several internal strengths were identified that supported the implementation of the project. One strength was that this author is a member of the university counseling and psychological services staff as a Psychiatric Consultant. As a result, this author had gained an awareness of the significant number of students who sought mental health treatment who had social anxiety as a primary concern or as contributing to other mental health issues. Additionally, this author was knowledgeable regarding the evidence-based research, which indicates that social anxiety is often unidentified and underdiagnosed (Wiltink et al., 2010) and was aware of other research supporting the need for early identification in university students (Brook & Willoughby, 2015). An additional strength of the organization was and continues to be a highly educated professional

staff in counseling and psychological services with experience identifying and treating mental health issues in the student population.

Another strength supporting this project was the lack of financial support needed to implement this quality improvement. All the technology and skilled support personnel were already available so there was no need to make budgetary considerations. All students have Internet access, email addresses, and most have cellular phones so they had easy access to the screening survey.

### ***Weaknesses***

Internal weaknesses in a SWOT analysis are defined as “...the qualities that prevent us from accomplishing our mission and achieving our full potential” (Ifediora, 2014). Currently there is no social anxiety screening options for students. This could represent a lack of knowledge among key stakeholders in the organization. Other internal weaknesses could be related to stigma about mental illness. Stigma about mental illness seem to be widely endorsed by a significant number of people (Corrigan & Watson, 2002). Stigma could be experienced by the students, the primary stakeholders, as well as the Student Services Department Staff who needed to approve and help implement the project. Students could also be concerned about confidentiality and may have been reluctant to do the screening. Besides stigma, another internal weakness could have been the student’s decision to skip the survey due to a variety of factors, such a limited time, or perception that it not important.

### ***Opportunities***

External strengths are “opportunities ... presented by the environment within which ... (the) organization operates (Ifediora, 2014, p. 24). Opportunities that could promote the implementation of this project included the increased awareness by various national and world

organizations of the importance of mental health promotion. Recently the World Health Organization included mental health in the Sustainable Development Goals (n.d.). Research about the importance of addressing mental health in the universities has been increasing as well and is reflected in various peer reviewed journals (Fernandez et al., 2016; Conley et al., 2013; Conley et al., 2015).

### ***Threats***

Threats as defined in a SWOT analysis are defined as conditions in the external environment which jeopardize the reliability and profitability of the organization's business. Although world and national organizations, and universities are more proactive regarding mental health issues, there is still significant stigma in the public. (Parcesepe & Cabassa, 2013). Stigma about mental health was an external threat to the development of the project. Students are part of their family systems and the larger culture which can influence their attitudes and propensity to use a screening tool for social anxiety.

Other threats to the development and implementation of this DNP project could have been related to circumstances such as the current COVID -19 pandemic. Government and health agencies have encouraged social distancing which may have affected the project in ways that cannot be understood.

Additional external threats to the project could have been related to economic changes that could impact the university's financial status. A reduced budget could mean that staff from the university's Student Services management and Counseling and Psychological Services Department, including this author could have been reduced or eliminated. This type of external threat cannot be planned for, however, once the project was implemented, it could be continued even with less staff.

**Project Relationship to Mission**

Understanding the mission of the organization is central in determining if practices within the organization are supporting its mission (Ifediora, 2014). The Student Support Services' Mission Statement is to "enhance and support the holistic development of our students by providing them with a dynamic educational environment... (2020)". Therefore, this project did align with the mission.

The Oxford Online Dictionary (2020) lists the philosophical definition of holism as "The theory that parts of a whole are in intimate interconnection, such that they cannot exist independently of the whole, or cannot be understood without reference to the whole, which is thus regarded as greater than the sum of its parts. Holism is often applied to mental states, language, and ecology".

Additionally, The Oxford Online Dictionary (2020) lists the medical definition of holism as "The treating of the whole person, taking into account mental and social factors, rather than just the symptoms of a disease." For the Student Services Department and its branch, Counseling and Psychological Services, to fulfill its mission, it must view the student in a holistic manner and address factors which are counterproductive to their educational experience. It is generally recognized that physical health is important to maintain and can interfere with learning (Rasberry, 2011). Mental health issues, such as anxiety, are also now being recognized and viewed as integral to learning (Robinson, 2013).

Although not as widely recognized as general anxiety, social anxiety has a direct impact on university students' academic performance and quality of life (Gultekin & Dereboy, 2011) and is commonly under identified and underdiagnosed (Wiltink et al., 2010). Speaking in front of



a crowd was the second highest phobia identified by university respondents in a study by Al-Naggar (2012).

### **Summary**

In summary, there are several factors which were considered strengths for this DNP project. One of the most important is that the project was consistent with the mission of the organization. Also, the technological basis and skilled personnel to implement the project were already in place. Additionally, the project reflected the increasing recognition of the importance of addressing mental health issues by world and national organizations. It is supported by evidence-based research with recommendations to incorporate screening for social anxiety in the university population.

Factors which could represent weaknesses in relation to the development of this project could have been a lack of knowledge about the need for screening for social anxiety in the students. This might have influenced support in management or by other staff in the development of the project. As with any issue related to mental health, stigma is always a concern. Stigma could have altered the support of the project by management and use of the screening by the students.

External threats which cannot be controlled, but which could have influenced the implementation of the project included post COVID-19 pandemic attitudes, the economic status of the country and the university, and stigma in the general population.

### **Implementation Timeline**

#### **Approval Process for the Project**

The Doctor of Nursing Practice Program Director at Seton Hall University approved this quality improvement project.

**In the Practice Setting**

Information about the project was presented to the Chief of Staff of the division of Student Services at the university. Approval for the students to be invited to complete the survey was subsequently granted. Support by the Student Services Administrator was contingent on approval by the university institutional review board (IRB). An IRB application was submitted and approved as part of the project implementation.

**Practice Mentor**

The practice site mentor serving as a member of the Scholarly Project Committee was the Director of the University Counseling and Psychological Services. This individual's education and training includes a PhD in Clinical Psychology. With over 25 years as a psychologist treating university students for numerous mental health issues, this member's input and contributions to the project were extremely relevant. Full support for the project was provided by this member of the committee.

**At the University**

This project was supervised by the Director of the Doctor of Nursing Practice program. Support and guidance were provided throughout the program at the university.

**Phases of the Project****Phase I - Needs Assessment Process**

A needs assessment is necessary whenever a proposed project is considered. This project was conceptualized by the project leader who is a psychiatric nurse practitioner while practicing at a large university's counseling and psychological services. Many students who were referred for psychiatric evaluations and treatment for other complaints, also were experiencing social

anxiety. Most had no knowledge about social anxiety. An initial literature review indicated that social anxiety was often underdiagnosed and undertreated among university students.

Although in some instances social anxiety may be limited to performance situations such as public speaking or performing in public, in many instances social anxiety can be more extensive. There are significant functional impairments associated with untreated social anxiety disorder. It is reported that there are “increased rates of school dropout and decreased well-being, employment, workplace productivity, socioeconomic status, and quality of life” (American Psychiatric Association, 2013, p.206).

Obtaining data identifying the prevalence of social anxiety among university students in the United States and associated factors will provide relevant data for future studies to guide interventions and at the same time will offer current student the opportunity to self-screen for social anxiety.

## **Phase II - Obtaining Support from Stakeholders Process**

Identifying and educating stakeholders was integral to the development and implementation of the project. The first stakeholder needed was the owner of the LSAS. Support for use was granted by Dr. Michael Liebowitz, the developer of the LSAS (See Appendix F). The Liebowitz Social Anxiety Scale was chosen due to its high reliability and validity and sensitivity (Heimberg et al., 1999).

The vice president of university student services was another important stakeholder. Their approval was needed to have electronic access to the student population via the weekly and monthly student newsletter. Specific terminology was required to meet the specifications to post the invitation. Attention to issues related to confidentiality were required. Support was contingent on Internal Review Board Approval (IRB) who was another stakeholder. IRB

approval is required to delineate any potential risks to the population being researched. This DNP project was identified as posing minimal risk according to the IRB (see Appendix E). Protection of participants was a key issue. The IRB identified specific requirements related to risks and benefits which needed to be included in the informed consent.

### **Phase III - Initial Implementation Steps**

Qualtrics was chosen as the web-based survey tool to collect the data. The survey developed with Qualtrics included the Informed Consent, Demographic Survey, the Liebowitz Social Anxiety Scale and follow up links. The university IT and library staff provided guidance in developing the survey. The Qualtrics software was programmed to collect the data anonymously. No identifying information was programmed to be obtained. The survey data was exported to SPSS and Excel formats and data is maintained on a USB drive. The USB will be kept in locked storage with only the Principal Investigator having access.

The first part of the survey was the Informed Consent. Participants needed to verify acceptance of the information and confirming they are at least 18 years old. This was important because it allowed them to legally consent to be part of the research. No incentive was offered for participating in the study.

The Committee Member who is also Director of the University Counseling and Social Services assisted in identifying pertinent demographic information to be included in the survey. Besides usual information such as age, detailed options for sex and gender were listed along with other questions related to academic major, country of birth, and year of university enrollment. This information was needed to fill gaps in the current research literature.

The next part of the survey was the Liebowitz Social Anxiety Scale (LSAS). LSAS consists of 24 items on a Likert Scale from 0-3 for fear for a specific situation and 0-3 for

avoidance of those situations. Participants could view their separate and combined scores. Higher scores indicate a higher probability of social anxiety disorder (Rytwinski et al., 2009). After completing the LSAS, participants were offered links for additional information from the National Institute of Mental Health and/or professional help from the university counseling and psychological services. After the students completed the survey, the data were compiled and analyzed.

First, descriptive analysis was done by looking at frequencies and percentages of demographic variables. A cutoff of 30 for combined scores on the LSAS was used to identify prevalence of social anxiety disorder among the participants. Rytwinski et al. (2009) established similar cutoff scores. Also examined were the frequencies and percentages of responses to questions of interest for more education about social anxiety and interest in follow up at the counseling center.

#### **Phase IV- Ongoing Implementation Process**

Only a two-week interval at the beginning of the Fall semester was offered electronically via the Student Newsletters for students to complete the survey. Repeating this process would not be complicated if deemed beneficial. Offering the survey during the beginning of the semester was deemed advantageous compared to later periods in the semester because of less burden academically and more time availability. However, since the response rate was low, other time periods should be considered if repeating the survey.

#### **Budget**

University staff provided all coordination and consultations involving the development of this project, so the cost was absorbed in the university budget. However, if the cost for the individual consultants and staff involved were calculated (excluding the cost of this Project

Manager/ Principal Investigator), the cost would approximate \$2,125 when considering the research committee members', library, and IT staff's time. There was no cost for the use of the LSAS, by the owner, Dr. Liebowitz. Conference rooms, utilities, and software costs were all absorbed in the general university budget. All communication was electronic so there were no stationary costs. Therefore, costs for developing this project were minimal and if continued there would be no additional expenditures.

### **Marketing Plan**

To develop a marketing plan, it was necessary to identify key stakeholders. Identifying stakeholders will identify the marketing targets. The stakeholders include those involved with reviewing the project proposal, approving the project, providing funding resources, assisting with the implementation, and the participants (the students). This project was marketed initially to my mentor and the Director of the DNP program. Next, the University Student Services administrator was the stakeholder critical for permission to access the student population. The internal review board (IRB) members were stakeholders as well. They were needed to provide IRB approval for the project to proceed. Finally, university students were stakeholders and needed to understand the project to participate. Administrators are stakeholders who need to be informed of the lack of additional funding required to implement or repeat the project since all the resources (personnel and technological provisions) are already available within the university.

### **Project Outcomes**

#### **Descriptive Analysis**

Forty-one respondents completed the survey. This was a low sample size considering that more than 10,000 students were enrolled at the university and received the student newsletters

with the invitation. The invitation was included in two newsletters with other announcements and may not have been easily noticed. If the project is repeated, the marketing approach would have to be reevaluated.

Participation in online surveys has been lower with the pandemic and that may have impacted the low response rate as well. When using the online approach, the value of the research needs to be evaluated considering potential challenges such as selection bias. While using online surveys can be particularly useful during the current pandemic, there needs to be critical view of the results even with large sample sizes (De Man et al., 2021).

This project represents a pilot study, and more research would be needed to determine statistically significant results. The data only represents those students who participated, and given the low response rate, would not be representative of the general university population.

### **Demographic Findings**

All respondents completed the demographic component of the survey. Most respondents were in the age range of 18-20 years (73.17 %) (Table 1). Most respondents were female (75%). Gender identity was consistent with the traditional identifiers. Those not in a relationship (60.98%) represented a greater cohort than those in a relationship (36.59%) 3). A large majority were Caucasian (73.17%) and born in North America (92.68%). The top three majors were Biology (19.51%), other (17.07%), and psychology (12.20 %). The percent of participants who lived on campus was almost equal to those who lived at home with their families (41.46 % and 39.02%, respectively). Third year students were the highest number of respondents (31.71%), followed closely by second year (24.39%) and first year (21.95 %) students. Almost all the participants were enrolled as full-time students (97.56 %).

Table 1.

## Demographic Characteristics of Sample (n=41)

Variable	N (%)
<b>Age</b>	
18-20 years	30 (73.1%)
21-23 years	11 (26.8%)
<b>Gender</b>	
Female	31 (75.6%)
Male	10 (24.4%)
<b>Relationship Status</b>	
Not in a relationship	25 (60.9%)
In a relationship	15 (36.5%)
Declined to answer	1 (0.04%)
<b>Ethnicity</b>	
Caucasian	30 (73.1%)
Hispanic/Latin	4 (9.7%)
Asian	3 (7.3%)
Two of more races	3 (7.3%)
Unknown	1 (2.4%)
<b>Birth Origin</b>	
North American	38 (92.6%)
South American	2 (4.8%)
European	1 (2.4%)
<b>Living Location</b>	
On campus	16 (39%)
Off campus with family	17 (41%)
Off campus, not with family	8 (19%)
<b>Enrollment Status</b>	
Full time	40 (97.5%)
Part time	1 (2.5%)
<b>Enrollment Years</b>	
1 <sup>st</sup> year (Freshman)	9 (21.9%)
2 <sup>nd</sup> year (Sophomore)	10 (24.3%)
3 <sup>rd</sup> year (Junior)	13 (31.7%)
4 <sup>th</sup> year (Senior)	6 (14.6%)
5+ year (Graduate)	3 (7.3%)



Percentages have been rounded in some instances

Table 1.

Demographic Characteristics of Sample, cont. (n=41)

College Major	N
Biology	8
Liberal Arts and Humanities	3
International Relations	2
Accounting	7
Nursing	4
Finance	4
Communication	3
Marketing	2
Other	7
Psychology	5

The LSAS instrument measured the degree of social anxiety. A descriptive summary of the LASA scores is presented in Table 2. A score of less than 30 would be normal. A score of 30-59 represents mild social anxiety, whereas a score of more than 60 represents moderate to severe. The distribution of LSAS was analyzed (Table 3).

Table 2.

Descriptive Analysis of the LSAS

LSAS Variable	Values
Mean	68.8
Standard Deviation	24.68
Median	71
Multi Modal	49, 81, 83, 86, 95
Range (97)	15 - 112

Table 3.

## Distribution of LSAS Scores by Category (n=41)

LSAS Score	N (%)	Category (definition)
0-29	3 (7.3%)	You do not suffer from social anxiety
30-49	8 (19.5%)	Mild social anxiety
50-64	5(12.1%)	Moderate social anxiety
65-79	8 (19.5%)	Marked social anxiety
80-94	10 (24.3%)	Severe social anxiety
≥95	7 (17.0%)	Very severe social anxiety

Score determined by Liebowitz Social Anxiety Scale and Directions (Appendix D)

The investigator compared mean scores of the LSAS by gender through an independent t test. A significant difference ( $p \leq 0.05$ ) was found between the mean LSAS score of females versus males (Table 4).

Table 4.

## Comparison of Mean LSAS by Gender (n=41)

Variable	LSAS <sup>(1)</sup> (SD)	
Gender		
Females	75.74 (19.54)	t=2.023 (df = 39), $p \leq .05$
Males	47.5 (24.48)	

Notes:

(1) Liebowitz Social Anxiety Scale (LSAS)

The LSAS scores were examined by enrollment level. The descriptive summary is included in Table 5.

Table 5.

## Average LSAS Score by Enrollment Level

Enrollment Level	$\bar{X}$ (SD)	Range
First Year	64.2 (22.8)	39-106
Second Year	63.7 (33.0)	20-104
Third Year	74.5 (17.5)	45-107
Fourth Year	63.8 (31.1)	17-95
Fifth Year (Graduate)	85.7 (3.5)	82-86

The investigator attempted to explore the relationship of enrollment year and LSAS through an ANOVA model (Table 6). However, given the low number of graduate students ( $n=3$ ), the assumption of a minimum of 5 entries per criterion was not satisfied. Examining only the undergraduate (first year through fourth year student) with an ANOVA model did not yield significant results ( $p=.6976$ )

Table 6.

## ANOVA Results of Undergraduate Students and LSAS

	Sum of Squares	df	Mean Sqr	F	P
Between	953	3	317.65	0.481	0.6976
Within	22450	34	660.29		
Total	23403	37			

Items on the LSAS which scored the highest were fear (severe) of acting, performing, or giving a talk in front of an audience (60.98%) and speaking up in a meeting (46.34%). Items which were scored the highest for avoidance (usually) were acting, performing, or giving a talk in front of an audience (48.78%) and speaking up in a meeting (39.02%).

The final section of the survey asked, "Based on your score, are you interested in more information about social anxiety?" Most participants (70.73%) answered "Yes", and some "Maybe" (14.63%). The next question asked, "Based on your score, do you plan to contact a

counselor at counseling and psychological services?” A small percentage (4.89%) answered “Yes”, but a much larger percentage (43.90%) answered “Maybe”.

### **Summary, Conclusions, and Recommendations**

The need to provide screening for social anxiety for university students has been clearly identified in numerous research studies outside the United States. This project was initiated to provide an option for self-screening and to obtain data relevant to university students in the United States. Participant response rate for the study was very low. This may be related to how the study was marketed and may also be related to limitations with online surveys particularly in the current pandemic environment. Regardless of the reason for the low response rate, the project has value as a pilot study

The data obtained could not be generalized to the larger university population due to the low sample size. The main finding was that gender was related to LSAS scores in this small sample since female students had statistically significant higher scores compared to male students. The prevalence of students whose scores indicated a high possibility of social anxiety disorder was 92.7 percent. The data that were obtained did not indicate a higher score for first year students which was one of the hypotheses. In this study, there was no relationship between year enrolled and combined scores on the LSAS. Therefore, the null hypothesis was not rejected.

The specific fears and avoidance identified by most of the participants related to social anxiety were acting, performing, or giving a talk in front of an audience and speaking up in a meeting. These findings are consistent with prior research studies outside the United States. These are key behaviors necessary in an academic environment and in most careers. It seems neglectful for universities not to address this potential barrier to excellence for their students.

Most of the student participants in the survey indicated they were interested in learning more about social anxiety and a fair number considered seeking professional help.

The need for social distancing necessary during a pandemic shutdown may impact social anxiety in university students according to a recent study (Arad et al., 2021). University campuses required social distancing during the COVID-19 pandemic and are still promoting limited social contact indoors. As there is potential for future need for increased social distancing, more research is needed to investigate this effect on social anxiety in the university setting. Most importantly, the study should be repeated with a larger sample size. Therefore, ongoing research related to social anxiety may be needed now more than any time in the past. Ongoing research and education about social anxiety can help inform appropriate interventions.

### **Sustainability**

This study provided the opportunity to self-screen for social anxiety and to seek treatment if indicated. It may be valuable to continue providing the screening on a regular basis to increase early identification of this potential mental health issue. Sustaining the project would not incur much effort as the screening tool is easily programmed to be accessible to the students via intra university email communications. Additionally, there would not be any ongoing costs associated with continuation of the screening.

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## **Appendices**

### **Appendix A**

#### Invitation for Study

#### **Invitation for Social Anxiety DNP Study Participants**

Kathleen Prendergast, a Doctor of Nursing Practice student in the College of Nursing at Seton Hall University is looking for participants for her DNP Scholarly Project Study. The purpose of this study is to screen for social anxiety and identify associated factors among university students. Students who participate will complete the Leibowitz Social Anxiety Scale (LSAS) and be able to view their scores. Participants can access links for information about social anxiety and/or can be provided with information to contact Seton Hall University Counseling and Psychological Services. Besides providing social anxiety screening for the participants, the information collected will also help expand the body of knowledge on this topic. The study is open to all enrolled Seton Hall University students over the age of 18. Please note that the data will be collected anonymously. A data security plan is in place to reduce any risk of breach of confidentiality. If you are interested, please click on this link [Social Anxiety Screening Survey](#)

## Appendix B

### Informed Consent

#### **Informed Consent**

**Title of Research Study:** Social Anxiety Screening and Associated Factors Among University Students

**Principal Investigator:** Kathleen Prendergast MSN, APN, PMHNP

**Department Affiliation:** DNP Program, College of Nursing Sponsor: This research is supported by Seton Hall University College of Nursing, DNP Program.

**Brief summary about this research study:** The following summary of this research study is to help you decide whether you want to participate in the study. You have the right to ask questions at any time.

**The purpose of this study** is to provide Seton Hall University students the opportunity to complete the Liebowitz Social Anxiety Scale and to provide options for additional education about social anxiety and/or links for Seton Hall University Counseling and Psychological Services. The survey data will also be used to identify the prevalence and associated factors for increased social anxiety among university students. This data will help inform future quality improvement projects regarding social anxiety. The data from this study will also reduce the gaps in the research regarding social anxiety in this population.

You are being asked to take part in this research study because you are a student 18 years or older and are enrolled at Seton Hall University for the Fall 2021 semester. Your participation in this research study is expected to be for approximately 20 minutes. You will be one of approximately 370 people who are expected to participate in this research study.

#### **What you will be asked to do:**

Your participation in this research study will include completing demographic information describing your age, sex, gender identity, relationship status, ethnicity, location of birth, academic major, living location, and year of study. Directions for completing the Liebowitz Social Anxiety Scale will be provided. The Liebowitz Anxiety Scale is a 24-item, self-rated scale used to assess how social anxiety plays a role in your life across a variety of situations. An example of a question in the scale is “What is your level of anxiety with eating in public”.

#### **Your rights to participate, say no or withdraw:**

Participation in research is voluntary. You can decide to participate or not to participate. You can choose to participate in the research study now and then decide to leave the research at any time. Your choice will not be held against you.

#### **Potential benefit:**

There may be no direct benefit to you from this study. However, possible benefits may include the opportunity to view your score on the Liebowitz Social Anxiety Scale. This screening is designed to provide helpful information but is not a substitute for receiving a diagnosis from a trained mental health profession. If you would like to speak to a counselor based on your

screening score, a link to the University Counseling and Psychological Services will be included at the end of the survey. Besides evaluating the degree of your social anxiety, your participation will also be contributing to the body of knowledge about social anxiety among university students.

**Potential risks:**

The risks associated with this study are minimal in nature. The data will be collected anonymously. A data security plan is in place to reduce any risk of breach of confidentiality. Some questions about social anxiety may make you feel uncomfortable. If that happens, you can skip those questions or withdraw from the study altogether. If you decide to quit at any time before you have finished the LSAS, your answers will NOT be recorded.

**Confidentiality and privacy:**

Efforts will be made to limit the use or disclosure of your personal information. This information may include the research study documents or other source documents used for the purpose of conducting the study. We cannot promise complete secrecy. Organizations that oversee research safety may inspect and copy your information. This includes the Seton Hall University Institutional Review Board who oversees the safe and ethical conduct of research at this institution.

This survey is being hosted by Qualtrics and involves a secure connection. Terms of service, addressing confidentiality, may be viewed at <https://www.qualtrics.com/privacy-statement/>. Upon receiving results of your survey, any possible identifiers will be deleted by the investigator. You will be identified only by a unique subject number. Your email address will be stored separately from your survey data. All information will be kept on a password protected computer only accessible by the research team. The results of the research study may be published, but your name will not be used.

**Data sharing:**

De-identified data from this study may be shared with the research community at large to advance knowledge. We will remove or code any personal information that could identify you before files are shared with other researchers to ensure that, by current scientific standards and known methods, no one will be able to identify you from the information we share. Despite these measures, we cannot guarantee anonymity of your personal data.

**Cost and compensation:**

You will not be responsible for any of the costs or expenses associated with your participation in this study. There is no payment for your time to participate in this study.

**Conflict of interest disclosure:**

The principal investigator and members of the study team have no financial conflicts of interest to report.

**Contact information:**

If you have questions, concerns, or complaints about this research project, you can contact the Seton Hall University Institutional Review Board (“IRB”) at (973) 761-9334 or [irb@shu.edu](mailto:irb@shu.edu). If you want a copy of this consent for your records, you can print it from the screen.

If you are 18 years of age or older and wish to participate, please click the “I Agree” button and you will be taken to the survey. If you do not wish to participate in this study, please select exit the browser

## Appendix C

### Demographic Survey Questions

#### Demographic information

**1. What is your age?**

18-20

21-23

24-26

27-30

30 plus

**2 What is your sex?**

Male

Female

Trans

**3. What is your gender identify?**

Female

Male

Trans female

Trans male

Gender variant/non-conforming

Not listed

Prefer not to answer

**4. What is your relationship status?**

In a relationship

Not in a relationship

Prefer not to answer

**5. What is your ethnicity?**

A. Caucasian,



- B. African American
- C. Latino or Hispanic
- D. Asian
- E. Native American
- F. Native Hawaiian or Pacific Islander
- G. Two or More
- H. Other/Unknown
- I. Prefer not to say

**6. Where were you born?**

- A. North America
- B. Central America
- C. South America
- D. Europe
- E. Africa
- F. Asia
- G. Australia
- H. Pacific Islander
- I. Caribbean Islands
- J. Other
- K. Prefer not to say

**7. What is your major:**

- Biology
- Liberal Arts and Humanities
- Nursing
- Marketing
- Finance
- Communications
- International Relations

Accounting

Management Sciences and Information Systems

Psychology

**9. Where do you live while attending school?**

On campus

Off campus

With family

**10. What year are you enrolled at the university?**

First year

Second year

Third year

Fourth year

## Appendix D

### Liebowitz Social Anxiety Scale and Directions

#### Liebowitz Social Anxiety Scale

This measure assesses the way that social phobia plays a role in your life across a variety of situations. Read each situation carefully and answer two questions about that situation. The first question asks how anxious or fearful you feel in the situation. The second question asks how often you avoid the situation. If you come across a situation that you ordinarily do not experience, we ask that you imagine “what if you were faced with that situation,” and then, rate the degree to which you would fear this hypothetical situation and how often you would tend to avoid it. Please base your ratings on the way that the situations have affected you in the last week. Fill out the following scale with the most suitable answer provided below.

Fear or Anxiety	Avoidance
0 = None	0 = Never (0%)
1 = Mild	1 = Occasionally (1%–33%)
2 = Moderate	2 = Often (33%–67%)
3 = Severe	3 = Usually (68%–100%)

Questions	Fear	Avoidance
1. Telephoning in public		
2. Participating in small groups		
3. Eating in public places		
4. Drinking with others in public places		
5. Talking to people in authority		

6. Acting, performing, or giving a talk in front of an audience
7. Going to a party
8. Working while being observed
9. Writing while being observed
10. Calling someone you don't know very well
11. Talking with people you don't know very well
12. Meeting strangers
13. Urinating in a public bathroom
14. Entering a room when others are already seated
15. Being the center of attention
16. Speaking up at a meeting
17. Taking a test
18. Expressing a disagreement or disapproval to people you don't know very well
19. Looking at people you don't know very well in the eyes
20. Giving a report to a group
21. Trying to pick up someone
22. Returning goods to a store
23. Giving a party
24. Resisting a high-pressure salesperson

Based on your combined score:

0-29 You do not suffer from social anxiety

30-49 Mild social anxiety

50-64 Moderate social anxiety

65-79 Marked social anxiety

80-94 Severe social anxiety

> 95 Very severe social anxiety

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**Appendix E**

## IRB Approval Letter



08/05/2021

Re: 2021-239

Dear Kathleen,

The Research Ethics Committee of the Seton Hall University Institutional Review Board reviewed and approved your research proposal entitled, "Social Anxiety Screening and Associated Factors Among University Students" as resubmitted. This memo serves as official notice of the aforementioned study's approval as exempt. If your study has a consent form or letter of solicitation, they are included in this mailing for your use.

The Institutional Review Board approval of your research is valid for a one-year period from the date of this letter. During this time, any changes to the research protocol, informed consent form or study team must be reviewed and approved by the IRB prior to their implementation.

You will receive a communication from the Institutional Review Board at least 1 month prior to your expiration date requesting that you submit an Annual Progress Report to keep the study active, or a Final Review of Human Subjects Research form to close the study. In all future correspondence with the Institutional Review Board, please reference the ID# listed above.

Sincerely,

Handwritten signature of Mara C. Podvey in black ink.

Mara C. Podvey, PhD, OTR  
Associate Professor  
Co-Chair, Institutional Review Board

Handwritten signature of Phyllis Hansell in black ink.

Phyllis Hansell, EdD, RN, DNAP, FAAN  
Professor  
Co-Chair, Institutional Review Board

**Appendix F**

**Permission to Use LSAS**

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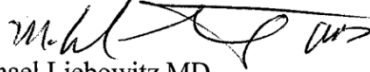
Nov 23, 2021

To Whom It May Concern,

I have approved of the use of the Liebowitz Social Anxiety Scale for the project  
« Social Anxiety Screening and Associated Factors Among University Students » by  
Kathleen Prendergast.

Please feel free to contact me if further information is needed.

Sincerely yours,



Michael Liebowitz MD  
Creator and copyright holder  
Liebowitz Social Anxiety Scale.