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The Effects of Perceived Social Rank on Socially Anxious Adolescents

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### Abstract

Anxiety has become the United States' most common mental health disorder affecting about one third of both adolescents and adults. The American College Health Association has also reported an increase in undergraduate students reporting "overwhelming anxiety" from 50% in 2011 to 62% in 2016. While anxiety affects individuals in different age groups, adolescence can be a time of heightened anxiety, in part because of the constant evaluation from others and because the processes that allow individuals to understand and interact with another, are still developing. Social anxiety has also been linked with perceived social rank, a system that is presumed to arise out of the competition for resources. Socially anxious individuals view themselves as being of lower ranking in the hierarchal system and therefore believe they are incapable of competing with those above them. The goal of the present study was to determine if socially anxious adolescents feel they are of a lower social rank. Participants were 46 individuals from a small liberal arts university in northern California. Participants were given the Social Comparison Scale along with the Social Interaction Anxiety Scale and a series of demographic questions. The results suggest that socially anxious individuals with a perceived lower social rank will exhibit higher levels of social anxiety. In a society highly driven by the desire to attend college and greatly affected by anxiety, it is important to further explore relationships between anxiety and other factors to work towards a solution to this social problem.

### The Effects of Perceived Social Rank on Socially Anxious Adolescents

Anxiety has become the United States' most common mental health disorder affecting about one third of both adolescents and adults (Kessler et al., 2005). The American College Health Association has also reported an increase in undergraduate students reporting "overwhelming anxiety" from 50% in 2011 to 62% in 2016 (Denizet-Lewis, 2017). While anxiety affects individuals in different age groups, adolescence can be a time of heightened anxiety, in part because of the constant evaluation from others and because the processes that allow individuals to understand and interact with another are still developing (Kilford, Garrett, & Blakemore, 2016). The evolutionary purpose of anxiety is to help people detect dangerous circumstances, but highly anxious individuals experience an overactive fight-or-flight response, causing them to overestimate danger. With this being said, young people who have been raised in abusive homes or who live in communities impacted by poverty or violence may exhibit anxiety as a logical reaction to unpredictable circumstances. On the other hand children from affluent communities are often faced with a constant pressure to succeed and are overloaded with activities that they should excel in in order to feel up to par. Regardless of class and background, adolescence is a crucial time for relationship development and a time period where individuals are heavily focused on how their peers evaluate them.

Social anxiety includes the element of the feeling of a heightened sense of danger that is common in general anxiety, but it is distinguished by a strong desire to make a positive impression of oneself on others, along with insecurity about one's ability to do so (Purdon, Antony, Monteiro, & Swinson, 2001). Purdon et al. explored a few concepts on how the recognition of anxiety in other individuals influences the observer's impressions of personal characteristics, and how normative data could be determined from the frequency in which

individuals experience particular symptoms of social anxiety in a nonclinical sample. Cognitive-behavioral models of social anxiety suggest that it is maintained by unreasonably high standards for social performance, frequently assuming that others view us as inadequate and assuming that these beliefs are true (Clark & Wells, 1995; Rapee & Heimberg, 1997). For example, Clark and Wells (1995) stated that individuals with social anxiety tend to rely on internal feelings as a way to judge whether a social situation is going well instead of measuring their performance through direct input from participants (like eye contact). The 81 undergraduate student volunteers who participated in the Clark and Wells' study had a mean age of 25 and were provided the Social Phobia Scale (Mattick & Clarke, 1998) and the Social Interaction Anxiety Scale (Mattick & Clarke, 1998) to assess the anxiety felt both when anticipating being observed and while actually being observed. The Marlow-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) was also used to assess whether or not the participants were responding truthfully or misrepresenting themselves in order to portray themselves in a certain fashion. This scale includes 33-items reflecting culturally acceptable and approved behaviors that are highly unlikely to occur. For example one of the items states, "I'm always willing to admit it when I make a mistake". The results suggested that socially anxious individuals may underestimate the extent to which others become anxious and actually show signs of anxiety, indicating that they may not be able to detect demonstrations of anxiety. The study also revealed that participants who were socially anxious were likely to view others showing signs of anxiety as less attractive and as having less strength of character.

In another study conducted by George and Stopa (2008), highly socially anxious participants were both more anxious and more publicly self-aware than their low socially anxious counterparts and increases in anxiety and awareness in response to experimental

manipulations related to self-focus. These data reinforce the notion that socially anxious individuals place a great deal of importance on self-perception.

Adolescence is a time when individuals begin to form complex hierarchal interpersonal relationships and when individuals are more sensitive to acceptance and rejection by their peers (Kilford et al., 2016). During this period individuals tend to have strong emotional responses to social situations, which can produce a variety of feelings from happiness to anxiety and in turn can affect self-perception. In order to understand the relationship between social interaction and anxiety during adolescence it is important to explore aspects of social cognition, the processes that allow individuals to understand and interact with one another. The complexity of social cognition processes such as facial expression processing and the ability to understand the mental state of oneself and others continues to develop through adolescence and into early adulthood. Mentalising refers to the ability to comprehend and predict the mental states, intentions, and actions of others. Face processing allows us to gain information from individuals around us including emotional expression, orientation of eye gaze, and identity, but in adolescence new aspects of face processing develop to include judgments of attractiveness and social status.

In order to distinguish the specifics of social interaction, Kocijan and Harris (2016) conducted a study to investigate the relationships among a fear of negative evaluation, fear of positive evaluation and measures of social anxiety and depression. Fear of negative evaluation refers to distress in relation to the expectation of unfavorable evaluations from others about one's appearance, while fear of positive evaluation refers to anxiety related to favorable evaluation in social and public situations due to the discomfort associated with social interaction. The sample was comprised of 35 individuals who contacted a psychology training clinic that provided outpatient group treatment for social anxiety after finding out about the program from an online

website. The Fear of Positive Evaluation Scale (Weeks, Heimberg, Rodebaugh, & Norton, 2008) was used to assess fear and distress related to positive evaluation from others and included statements such as, “I feel uneasy when I receive praise from authority figures.” Statements are rated on a 10-point Likert scale. The Brief Fear of Negative Evaluation-Straightforward Self-Inventory (Rodebaugh, Woods, Thissen, Heimberg, Chambless, & Rapee, 2004) was used to assess worry and concern related to negative evaluation from others, including statements such as, “I am frequently afraid of other people noticing my shortcomings,” rated on a 5-point Likert scale. Next the Social Phobia Scale (Mattick & Clarke, 1998) was used to measure social anxiety, along with the Beck Depression Inventory-II (Beck, Steer, & Brown, 1996) to measure depression. The findings from the study indicated that the relationship between the measures of social anxiety and depression and fear of negative evaluation are independent from the fear of positive evaluation, indicating that fear of positive evaluation is a unique predictor of social interaction anxiety but not of performance anxiety or depression.

As mentioned previously, face processing is an important aspect of social cognition and is often associated with impairments related to social anxiety (Weickowski et al., 2016). Weickowski and her colleagues examined adolescent anxiety in relation to facial emotion recognition (FER). They specifically looked at the differences in the ability to recognize emotions such as fear and anger between individuals with high versus low levels of social anxiety symptoms. They hypothesized that fear recognition in adolescents would be correlated with symptoms of social anxiety and that these differences would be gender specific.

The participants in this study included 64 adolescents (43 females and 21 males) between the ages of 12-17. Participants were provided with a link to an online survey in which they were asked to rate 257 child and adolescent faces depicting various emotions and to complete a self-

report measure of social anxiety symptoms. The pictures of the emotions were presented in a fashion that did not allow the same emotion or actor to be shown twice in a row. The participants were then asked two questions after each image: which emotions the image represented and how accurately the picture represented that emotion. The 257 images consisted of 59 children and adolescents aged 10-17 years, and 50 images displayed happiness, 52 anger, 48 sadness, 51 fear and 56 neutral. The Liebowitz Social Anxiety Scale (LSAS) (Liebowitz, 1987) was used to measure symptoms of social anxiety. It includes 24 items that concerned performance anxiety and social situations. Items are scored on a Likert scale from 0 to 3 regarding the extent of fear experienced during a given situation and the extent to which one avoids such situations. The results showed that adolescents who scored higher in social anxiety were significantly worse at identifying fear in the faces presented. It is also important to note that both groups displayed high recognition rates of fearful emotions in comparison to other emotions, suggesting that overall the adolescents did not show impairment in fear recognition, but rather that the differences that were observed were associated with self-reported social anxiety symptoms.

On the other hand there were no significant differences between adolescents who scored low and high in social anxiety for any of the other emotions. The results also indicated that there was not a significant interaction between sex and LSAS scores, but looking at the results in more depth, the authors suggested that there may be a difference in how females misattribute fearful emotion based on their degree of social anxiety, with females who report lower levels of social anxiety attributing fearful faces to sadness in comparison to females who report high social anxiety, who attribute fearful faces to neutral expressions.

Taking a further look at how socially anxious adolescents perceive others, Ranta, Laakkonen, and Niemi (2016) conducted a study that examined negative and positive



metaperceptions in 14-16 year olds with high versus normal levels of social anxiety in a hypothetical classroom scenario in which participants predicted the frequency of negative and positive classmate responses when imagining themselves or a classmate. The term “metaperception” refers to an individual’s perception of how other people perceive him or her; therefore a negative metaperceptive bias is present in social anxiety models that emphasize the expectations of a high likelihood of criticism from an audience. The authors hypothesized that socially anxious adolescents would likely predict negative metaperceptions and that adolescents with high social anxiety would differ from those with low level of social anxiety in regards to the type and content of their metaperceptions.

The sample consisted of 655 participants in Finland (54.7% girls and 45.3% boys) aged 14-16. During the study adolescents filled in the Classroom Questionnaire of Social Anxiety and Interpersonal Cognition (CQ-SAIC) as well as the Social Anxiety Scale for Adolescents (SAS-A) (La Greca and Lopez, 1998) in a classroom supervised by a researcher during the school day. The SAS-A consists of an 18 item self-report scale that measures negative evaluation, social avoidance and distress in new situations as well as generalized social avoidance. The CQ-SAIC assesses several dimensions of an adolescent’s interpersonal cognition in regards to a hypothesized classroom scenario. This scenario is described as a student experiencing emotional, cognitive, behavioral and bodily symptoms of social anxiety in a public speaking situation in front of his or her classmates. The respondents are instructed to imagine it happening in their own class. Within this assessment, two metaperception versions (MEPE) were used to measure how the participants viewed themselves in two distinct scenarios. After reading the description of the student experiencing symptoms of social anxiety the respondents were asked to describe their predictions of their classmates’ responses toward the student and then toward themselves when

instructed to imagine that they were the target student. They were asked how they thought their own classmates would react to the student's performance and instructed to choose the alternative that best describes the responses of their classmates. The results of the study revealed that adolescent boys and girls with high social anxiety displayed a tendency to predict frequent negative classmate responses toward themselves as a presenter in the speech scenario, but on the contrary when imagining an anxious peer being the target person for classmate reactions, socially anxious adolescents did not differ from adolescents with a low level of social anxiety in their predictions of negative classmate responses. These data suggest that socially anxious adolescents may display a tendency to view themselves in third person in peer interactions. In another study conducted by La Greca and Lopez (1998), the results suggested that adolescents who reported higher levels of social anxiety felt less accepted and supported by their classmates, which may suggest that socially anxious individuals may expect more negative evaluation.

The previous study conducted by La Greca and Lopez highlights the fact that socially anxious individuals tend to place an emphasis on how they view themselves in comparison to others. Feelings of inferiority can have a negative effect on socially anxious individuals. Aderka, Weisman, Shahar and Gilboa-Schechtman (2009) conducted a study to look into the effects of social rank and attachment on social anxiety and depression. As described by Trower and Gilbert (1989), a social rank psychological system and safety psychological system have both evolved in human psychology and pertain to the maintenance and generation of social anxiety. The social rank system is presumed to arise out of the competition for resources, allowing for an individual to monitor his or her place in the social hierarchy in order to increase the likelihood of accessing resources. On the other hand the safety system promotes partnership with other individuals that can offer reassurance and assistance, stemming from a social view of the world in order to

monitor opportunities for individuals to cooperate. According to Trower and Gilbert, socially anxious individuals are more inclined to view the world from a hierarchal perspective at the expense of the safety system. More specifically socially anxious individuals view themselves as being lower ranking in the hierarchal system and therefore believe that they are incapable of competing with those above them. In this model, it is also proposed that the primary goal of obtaining resources is then replaced with a second tier goal of avoiding harm or rejection, accomplished through submission and appeasement.

To study this Aderka et al., (2009) conducted a study with 102 individuals recruited from the community who were visited by research assistants in their homes. A self reported measure called the Social Comparison Scale (Allan & Gilbert, 1995) was used to investigate perceived social rank in individuals. The scale includes 11 questions regarding how an individual feels in relation to others and a Likert scale including trait differences between inferior-superior, weaker-stronger, unconfident-more confident, and incompetent-competent. The Submissive Behavior Scale (Gilbert & Allan, 1994) was used to measure submissive behavior, including 16 statements rating the frequency of submissive behaviors on a 0-4 Likert scale. The results of the study suggested that feeling inferior plays a prominent role in social anxiety and subsequent depression.

To further understand the complications in social interaction, Kocijan and Harris (2016) conducted a study to investigate the relationships among a fear of negative evaluation, fear of positive evaluation and measures of social anxiety and depression. Fear of negative evaluation refers to distress in relation to the expectation of unfavorable evaluations from others about one's appearance, while fear of positive evaluation refers to anxiety related to favorable evaluation in social and public situations due to the discomfort associated with social interaction. The sample

was compromised of 35 individuals who contacted a psychology training clinic that provided outpatient group treatment for social anxiety after finding out about the program from an online website. The Fear of Positive Evaluation Scale (Weeks, Heimberg, Rodebaugh, & Norton, 2008) was used to assess fear and distress related to positive evaluation from others and included statements such as, “I feel uneasy when I receive praise from authority figures,” which were answered on a 10-point Likert scale. The Brief Fear of Negative Evaluation-Straightforward Self-Inventory (Rodebaugh et al., 2004) was used to assess worry and concern related to negative evaluation from others, including statements such as, “I am frequently afraid of other people noticing my shortcomings” on a 5-point Likert scale. Next the Social Phobia Scale (Mattick & Clarke, 1998) was used to measure social anxiety, along with the Beck Depression Inventory-II (Beck, Steer, & Brown, 1996) to measure depression. The findings from the study indicated that the relationship between the measures of social anxiety and depression and fear of negative evaluation are independent from the fear of positive evaluation, indicating that fear of positive evaluation is a unique predictor of social interaction anxiety, but not of performance anxiety or depression.

Emphasizing how social comparison can affect individuals with social anxiety, Berger, Keshet and Gilboa-Schechtman (2017) investigated the correlation between explicit and implicit social rank evaluations and the severity of social anxiety in an individual. Explicit self-evaluations describe behaviors that are attributed to conscious attitudes and controlled conduct, while implicit self-evaluations rely on intuitive associations of the self. Individuals are conscious of explicit self-evaluations, while implicit self-evaluations occur without conscious awareness and are more of automatic feelings.

Berger et al.'s sample consisted of 222 undergraduate students who completed the study as a part of a course requirement. The first hypothesis was that the severity of social anxiety would be influenced by explicit and implicit social-rank evaluations, more than the effects of self-esteem, severity of depression and affiliation self-evaluations. The second hypothesis focused on the severity of social anxiety and stated that it was further related with explicit-implicit interaction in regards to social rank. In order to assess implicit self-evaluations, participants were asked to complete social-rank and affiliation Implicit-Association Tests (Greenwald, Nosek, & Banaji, 2003). On the Implicit-Association Tests participants are asked to rapidly categorize each trait of social rank attributes (such as dominant and submissive) and affiliation attributes (such as friendly and hostile) according to the relevant labels of "self" and "other" stimuli (i.e. self: Me/Mine and other: Him/Her). Next, participants rated themselves on social-rank traits consisting of 6 positive (e.g., assertive, strong) and 6 negative (e.g., weak, hesitant) traits and affiliation traits consisting of 6 high (e.g., kind, caring) and 6 low (e.g., cold, distant) traits. Lastly they were assessed using the Rosenberg Self-esteem Scale (Rosenberg, 1965), the Beck Depression Inventory (Beck et al., 1996) and three measure of social anxiety including: the Liebowitz Social Anxiety Scale (Liebowitz, 1987), Brief Fear of Negative Evaluation Scale (Leary, 1983) and Fear of Positive Evaluation Scale (Weeks et al., 2008). The results indicated that social anxiety severity was negatively associated with explicit social rank evaluation. The findings suggest that evaluations of one's social-rank are heavily associated with social anxiety-severity since individuals with low levels of implicit social rank self-evaluations were related to more severe social anxiety.

While most socially anxious individuals view themselves as being of lower ranking in the hierarchal system and therefore, believe they are incapable of competing with those above them,

the present study is specifically focused on the effects of perceived social rank in adolescents experiencing social anxiety. The goal of the present study was to determine if socially anxious individuals with a perceived lower social rank would exhibit higher levels of social anxiety, in addition to analyzing any ethnic and employment differences. The researcher hypothesized that socially anxious individuals with a lower perceived social rank would exhibit higher levels of social anxiety.

## **Method**

### **Participants**

Students were recruited from a small liberal arts college in northern California from undergraduate courses. The researcher requested permission from professors to give a brief presentation during class time in order to recruit students for the current study. Potential participants were also encouraged to share the link to the survey with fellow student peers.

A total of 46 participants ultimately volunteered and represented various class levels including 21.7% first year students, 13.0% second year students, 23.9 % third year students, 39.1% fourth year students and 2.2% graduate students. The participants also reported their current employment status as 45.7% full-time employees, 6.5% part-time workers, 13.0% self-employed, and 34.8% stated that they were unemployed. Participants were from a variety of racial and ethnic groups including 45.7% White, 30.4% Latino, 10.9% Asian, 8.7% Other, 2.2% Black and 2.2% Pacific Islander. Ages of participants ranged from 18 to 57, with a mean of 24.74 and a standard deviation of 9.70. Of the 46 participants, 60.9% were female, 21.7% were male and 17.4% did not report.

## Materials

The survey used in the current study consisted of 34 questions accompanied by a letter of introduction. The letter of introduction was used to inform potential participants that the current study was anonymous, voluntary and would not affect their class grade in any way. In addition to this, contact information for the researcher was provided if participants had any questions regarding the current study or to learn the results when research was completed.

The first set of questions was the 20 items from the Social Interaction Anxiety Scale (SIAS) (Mattick and Clarke, 1998). This standardized measure is designed to measure social interaction anxiety, defined as “distress when meeting and talking with other people”. The 20 self-report items included in this scale focus on information about participants’ social cognition. Some sample items from this scale include, “I get nervous if I have to talk to someone in authority (teacher, boss, etc.)” and “I worry about expressing myself in case I appear awkward”. Respondents rate each item using a 5 point Likert scale regarding how much each statement applies to them personally, from 0 (Not at all characteristic of me) to 4 (Extremely characteristic of me).

The second set of questions included the 11 items from the Social Comparison Scale (SCS) (Allan and Gillbert, 1995) which measures self-perceptions of social rank and relative social standing. The scale is composed of bipolar constructs relating to attractiveness, social rank, and how well the person feels he or she “fits in” with others in society. Respondents are asked to compare themselves in relation to other people and rate themselves along a ten point scale with endpoints referring to bipolar constructs, such as weaker and stronger. Lower scores on this scale are associated with feelings of inferiority and perceptions of lower self-rank.

The last 5 questions were demographic items created by the researcher pertaining to college education level, current employment status, age, sex and ethnicity. The question regarding college education level was included to gauge whether upperclassmen were experiencing higher or lower levels of social anxiety compared to newer students. Additionally, the employment status question was used to determine any correlation between social anxiety and professional ability. The last two questions were included to analyze age or ethnic differences.

### **Procedure**

Students interested in participating in the current study followed instructions on the email the researcher sent out following the recruitment presentation. By clicking a link included in the email, participants were redirected to the online SurveyMonkey.com platform where they were presented with the letter of introduction and after reading it could move to complete the survey. The survey took approximately ten minutes to complete.

### **Results**

It was hypothesized that socially anxious individuals with a lower perceived social rank would exhibit higher levels of social anxiety. In order to test this hypothesis scores on the Social Comparison Scale (SCS) by Allan and Gillbert (1995) and on the Social Interaction Anxiety Scale (SIAS) (Mattick and Clarke, 1998) were correlated with one another. Higher scores on the SCS indicate a higher perceived social standing in comparison to others, while higher scores on the SIAS indicate that an individual is experiencing greater social anxiety. As predicted, the resulting correlation analysis revealed a significant negative correlation,  $r(44) = -.67, p < .001$ . Those individuals who see themselves as being of a lower social standing in comparison to others tended to have higher levels of social anxiety.



Although they were not the main focus of the present study, other findings from the analysis are also worth noting. Taking a further look at the correlation between social comparison and social anxiety, the researcher split the sample by sex and calculated separate correlations for each sex. While the resulting correlations were statistically significant for both sexes, the correlation was somewhat stronger for the males;  $r(8) = -.67, p < .05$  than for females;  $r(26) = -.61, p < .01$ .

In addition to the previous findings, participants were divided into four groups on the basis of their reported employment status and the mean scores on both social anxiety and social comparison were compared using a one way analysis of variance. Results showed that there were significant differences among the groups only for social anxiety,  $f(3,42) = 3.54, p < .05$ . Post hoc analyses indicated that the average score on social anxiety was significantly higher for unemployed individuals than in any of the other groups, but there were no differences among any of the other groups.

### **Discussion**

The findings of the present study supported the hypothesis that individuals with higher levels of social anxiety would have lower self-perceptions of social rank and these results were consistent with those of Aderka et al.'s (2009) study. These findings make sense logically, since it is to be expected that those who feel inadequate in social standing might experience more social anxiety when interacting with others. It also makes sense that an individual battling with social anxiety would have a difficult time in social situations.

The present study had various limitations. First the findings of this study were limited to a specific population: college students. Using a diverse sample with other groups would affect the results because individuals attending higher education institutions are expected to have a

higher social standing in society. By including samples from groups not seen as high ranking in overall society researchers might gain an insight on the self-perceptions of other groups.

In addition to this, given that this was a non-clinical sample, this limits the generalizability of findings to individuals without clinically diagnosed social anxiety. Looking at a sample with clinically diagnosed social anxiety would allow researchers to study specific variables that cause social anxiety more closely. For future studies it would be useful to look at both clinical and non-clinical samples. The current study was also limited to a specific sample of college aged students from a private institution. A broader sample in terms of age and social status would allow researchers to gain a better understanding of the relationship between perceived social rank and social anxiety.

While the measures were able to capture whether an individual was experiencing some factors of social anxiety and how they saw themselves in comparison to others, there is always room for error in surveys. The results are then directly affected by how honestly and thoroughly an individual answered each question

The results of the study suggest that social rank plays a part in social anxiety given that individuals that had perceived lower social rank experienced higher levels of social anxiety. This may be partially explained by Trower and Gilbert's (1989) social rank model that associates feelings of inferiority with submissive behavior. This model suggests that socially anxious individuals may attempt to avoid social interaction in order to protect their social position.

With regards to the findings about higher levels of social anxiety in individuals that consider themselves unemployed and higher levels of self-perceived social rank in individuals that consider themselves employed, it is safe to assume that social anxiety can debilitate individuals to the point that they are unable to function in society. It could also be that the

inability to interact socially with others reinforces negative self-perceptions of social rank and maintains feelings of social anxious. As suggested by Clark and Wells (1995) negative mental images can maintain social anxiety. In other words, aiming towards positive mental images may serve as a buffer towards reducing social anxiety.

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**DOMINICAN UNIVERSITY OF CALIFORNIA  
RECRUITMENT SCRIPT**

Hello,

My name is Ernest Garcia and I am an undergraduate psychology student at Dominican University of California. I'm currently working on a senior thesis project that is being supervised by Dr. Matt Davis, Professor of Psychology at Dominican University. This research explores the relationship between perceived social rank and factors related to social anxiety. I am looking for volunteers who might be interested in participating in an anonymous online survey. The questions will consist of questions related to your demographics, social interactions and aspects of your personality and behavior. The entire survey will last no longer than 15 minutes of your time. I will be sending you a link to the study via email, and if you are interested in participating, please follow the link to the survey.

Please note that participation in this research is completely voluntary and anonymous.

Are there any questions? In case any other questions come up please feel free to contact me via email.

Thank you in advance,

Ernest Garcia  
Psychology Student  
Dominican University of CA Ernest.Garcia@students.dominican.edu

**APPENDIX B**

**DOMINICAN UNIVERSITY OF CALIFORNIA  
LETTER OF PERMISSION TO DOMINICAN FACULTY**

[INSERT PROFESSOR NAME]  
Psychology Department  
Dominican University of California

**RE: PRESENTATION OF RESEARCH PROJECT**

Dear [INSERT PROFESSOR NAME]:

This letter confirms that you have read a brief description of my research project that explores the relationship between perceived social rank and factors related to social anxiety, and that I have your permission to recruit participants for this project from your Psychology of Women class at a date and time convenient for you. I would only need 5 minutes of class time to summarize my project, ask for volunteers, and explain how volunteers can access the survey.

This project is an important part of my undergraduate research requirements as a Psychology major at Dominican. Professor Matthew Davis, Psychology Department, is supervising my research. If you have questions about the project you may contact me at phone number or email address below. If you have further questions you may contact Dr. Davis at 415-257-0198, or the Institutional Review Board for the Protection of Human Participants at (415) 482-3547.

Shortly after completion of my study, I will send you a brief summary of relevant findings and conclusions.

If my request to contact the students in your class meets with your approval, please sign this letter on the line provided below, date, and return this letter to me as soon as possible. I have enclosed a stamped self-addressed envelope for your convenience. I will then contact you to arrange a convenient time for visiting your class.

Thanks for your assistance.

Sincerely,

Ernest Garcia  
50 Acacia Avenue  
Psychology Student Research Box  
Dominican University of California  
San Rafael, CA 94901  
Ernest.Garcia@students.dominican.edu

**I agree with the above request**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



**DOMINICAN UNIVERSITY OF CALIFORNIA  
RECRUITMENT EMAIL TO PARTICIPANTS**

**RE: SOCIAL ANXIETY STUDY**

Hello,

My name is Ernest Garcia and I am an undergraduate psychology student at Dominican University of California. I'm currently working on a senior thesis project that is being supervised by Dr. Matt Davis, Professor of Psychology at Dominican University. This research is focused on exploring factors related to social anxiety. I am looking for volunteers who might be interested in participating in an anonymous online survey. The questions will consist of questions related to your demographics and aspects of your personality and behavior. The entire survey will last no longer than 15 minutes of your time. If you are interested in participating in this study, please follow the link to the survey. [INSERT SURVEY LINK HERE]. Please feel free to forward this email to anyone you know who might be interested in assisting with this research. Thank you for your time!

Sincerely,

Ernest Garcia  
50 Acacia Avenue  
Psychology Student Research Box  
Dominican University of California  
San Rafael, CA 94901  
Ernest.Garcia@students.dominican.edu

**APPENDIX D**  
**LETTER OF INTRODUCTION TO PARTICIPANTS IN**  
**ANONYMOUS SURVEY RESEARCH**

Dear Study Participant,

My name is Ernest Garcia and I am an undergraduate Psychology major at Dominican University of California. I am conducting a research project as part of my senior thesis requirements, and this work is being supervised by Matthew S. Davis, Ph.D., Professor of Psychology at Dominican University of California. I am requesting your voluntary participation in my study, which concerns factors related to social anxiety.

Participation in this study involves filling out a survey is about factors related to social anxiety, as well as some demographic questions to be used for statistical purposes. Please note that your participation is **completely voluntary** and you are **free to withdraw your participation at any time**. Likewise, your participation or non-participation **will not affect your class grade**. In addition your survey responses are designed to be **completely anonymous**. However, anonymity cannot always be absolutely guaranteed, and in the unlikely event an identity becomes known, all information will be held as completely confidential and all results will be presented as group totals only. Filling out the survey is likely to take approximately 15 minutes of your time.

If you choose to participate in this study, please fill out the survey as honestly and completely as possible. You may select the most appropriate answer to the question and fill in your response when prompted. After you have completed the survey you may submit your answers and clicked the 'Done' option on SurveyMonkey.com. Remember, this survey is completely anonymous; do not put your name or any other identifying information on your survey form. If you choose not to participate, please return your unused survey materials to me in the envelope provided.

If you have questions about the research you may contact me at the email address provided below. If you have further questions you may contact my research supervisor, Dr. Davis at (415) 257-0198 or the Dominican University of California Institutional Review Board for the Protection of Human Participants (IRBPHP), which is concerned with protection of volunteers in research projects. You may reach the IRBPHP Office by calling (415) 482-3547 and leaving a voicemail message, or FAX at (415) 257-0165, or by writing to IRBPHP, Office of Associate Vice President for Academic Affairs, Dominican University of California, 50 Acacia Avenue, San Rafael, CA 95901.

If you would like to know the results of this study once it has been completed, results will be presented at Dominican University of California's Academic Showcase in April, 2018, or you may contact me at the email address below for a brief summary of the results.

Thank you in advance for your participation.

Sincerely,

Ernest Garcia  
Dominican University of California  
50 Acacia Avenue, San Rafael, CA 94901  
Ernest.Garcia@students.dominican.edu

## APPENDIX E

### SOCIAL INTERACTION ANXIETY SCALE

For each item, please identify the number to indicate the degree to which you feel the statement is characteristic or true for you. The rating scale is as follows:

- 0 = **Not at all** characteristic or true of me.
- 1 = **Slightly** characteristic or true of me.
- 2 = **Moderately** characteristic or true of me.
- 3 = **Very** characteristic or true of me.
- 4 = **Extremely** characteristic or true of me.

1. I get nervous if I have to speak with someone in authority (teacher, boss, etc.)
2. I have difficulty making eye contact with others.
3. I become tense if I have to talk about myself or my feelings.
4. I find it difficult to mix comfortably with the people I work with.
5. I find it easy to make friends my own age.
6. I tense up if I meet an acquaintance in the street.
7. When mixing socially, I am uncomfortable.
8. I feel tense if I am alone with just one other person.
9. I am at ease meeting people at parties, etc.
10. I have difficulty talking with other people.
11. I find it easy to think of things to talk about.
12. I worry about expressing myself in the case I appear awkward.
13. I find it difficult to disagree with another's point of view.
14. I have difficulty talking to attractive persons of the opposite sex.
15. I find myself worrying that I won't know what to say in social situations.
16. I am nervous mixing with people I don't know well.
17. I feel ill say something embarrassing when talking.
18. When mixing in a group, I find myself worrying I will be ignored.
19. I am tense mixing in a group.
20. I am unsure whether to greet someone I know only slightly.

**APPENDIX F**

**PERMISSION TO USE SOCIAL INTERACTION ANXIETY SCALE**

- 3 = Very characteristic or true of me.  
 4 = Extremely characteristic or true of me.

CHARACTERISTIC	NOT AT ALL	SLIGHTLY	MODERATELY	VERY	EXTREMELY
1. I get nervous if I have to speak with someone in authority (teacher, boss, etc.).	0	1	2	3	4
2. I have difficulty making eye contact with others.	0	1	2	3	4
3. I become tense if I have to talk about myself or my feelings.	0	1	2	3	4
4. I find it difficult to mix comfortably with the people I work with.	0	1	2	3	4
5. I find it easy to make friends my own age.	0	1	2	3	4
6. I tense up if I meet an acquaintance in the street.	0	1	2	3	4
7. When mixing socially, I am uncomfortable.	0	1	2	3	4
8. I feel tense if I am alone with just one other person.	0	1	2	3	4
9. I am at ease meeting people at parties, etc.	0	1	2	3	4
10. I have difficulty talking with other people.	0	1	2	3	4
11. I find it easy to think of things to talk about.	0	1	2	3	4
12. I worry about expressing myself in case I appear awkward.	0	1	2	3	4
13. I find it difficult to disagree with another's point of view.	0	1	2	3	4
14. I have difficulty talking to attractive persons of the opposite sex.	0	1	2	3	4
15. I find myself worrying that I won't know what to say in social situations.	0	1	2	3	4
16. I am nervous mixing with people I don't know well.	0	1	2	3	4
17. I feel I'll say something embarrassing when talking.	0	1	2	3	4
18. When mixing in a group, I find myself worrying I will be ignored.	0	1	2	3	4
19. I am tense mixing in a group.	0	1	2	3	4
20. I am unsure whether to greet someone I know only slightly.	0	1	2	3	4

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**APPENDIX G**  
**SOCIAL COMPARISON SCALE**

Please identify the number at a point, which best describes the way in which you see yourself in comparison to others.

For example:

Short 1 2 3 4 5 6 7 8 9 10 Tall

If you mark at 3 this means you see yourself as shorter than others; if you choose a 5 (middle) about average; and a 7 would indicate somewhat taller.

In relationship to others I feel:

Inferior 1 2 3 4 5 6 7 8 9 10 Superior  
Incompetent 1 2 3 4 5 6 7 8 9 10 More competent  
Unlikeable 1 2 3 4 5 6 7 8 9 10 More likeable  
Left out 1 2 3 4 5 6 7 8 9 10 Accepted  
Different 1 2 3 4 5 6 7 8 9 10 Same  
Untalented 1 2 3 4 5 6 7 8 9 10 More talented  
Weaker 1 2 3 4 5 6 7 8 9 10 Stronger  
Unconfident 1 2 3 4 5 6 7 8 9 10 More confident  
Undesirable 1 2 3 4 5 6 7 8 9 10 More desirable  
Unattractive 1 2 3 4 5 6 7 8 9 10 More attractive  
An outsider 1 2 3 4 5 6 7 8 9 10 An insider

**APPENDIX H**  
**PERMISSION TO USE SOCIAL COMPARISON SCALE**

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**APPENDIX I  
DEMOGRAPHIC QUESTIONS**

Please fill in the following information:

What is your education level?

What is your current employment status?

What is your race/ethnicity?