Investigating the Relationship Between Loneliness, Evaluation Anxiety and Gender on The Prediction of Social Anxiety in an Irish Context

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Abstract

Aims: The current study sought to provide a greater understanding of the predictive relationship between the presence of loneliness and evaluation anxiety symptoms on levels of social anxiety in a general community sample (aged 18 – 75) while also exploring the gender differences within these variables. **Background:** Social anxiety disorder is one of the most prevalent and pernicious anxiety disorders. Upon further research, it was found that no research has been conducted on the strength of loneliness, evaluation anxiety and gender to predict social anxiety in an Irish population. **Methodology:** A questionnaire was administered to a general community sample (n=251) through google forms which consisted of questions regarding the demographics of the participants and three self-report measures; The UCLA Loneliness Scale Version 3 (UCLA LSV3), The Brief Fear of Negative Evaluation Scale (BFNES), and The Liebowitz Social Anxiety Scale (LSAS). **Results:** Results showed that higher loneliness scores and higher evaluation anxiety scores were associated with positively associated with higher levels of social anxiety. In addition, age was negatively associate with higher levels of social anxiety. Alternatively, gender and years in education were not associated with social anxiety. Loneliness and evaluation anxiety explained 57.6% of variance in social anxiety levels. Both variables were found to uniquely predict social anxiety levels to a statistically significantly level, although loneliness was marginally stronger. **Conclusions:** Findings provide a greater understanding of the development of anxiety among an Irish population with varying degrees of social anxiety disorder symptoms. Strengths and limitations of this study are discussed. As well as direct and societal level implications regarding mental health issues in Ireland.

Keywords: Social anxiety, evaluation anxiety, loneliness, gender, Ireland, general community

Introduction

This project will examine the relationship between social anxiety and its predictors in an Irish, general population sample. This is important because social anxiety disorder (SAD) or social phobia as it may also be defined in the literature, is one of the most common mental illnesses in the world (Hofmann & Otto, 2017), with approximately one-fifth of the world's population describing "unreasonably strong social fears, ranging from pervasive shyness to more or less isolated social fears" and an additional 13% of the population reaching the diagnostic threshold for SAD once during their lifetime at minimum (Knappe, Sasagawa & Creswell, 2015). This Literature Review will begin by providing a general overview of the area of social anxiety, before describing more specific studies on the correlation between social anxiety (SA), loneliness, and evaluation anxiety (EA). The DSM-V (2013) defines SAD as an excessive fear of social situations whereby the effected feels as though they could be scrutinized. This fear can be categorised as trait (long-term) or state (short-term) anxiety (Leal et al, 2017). Individuals with a generalised subtype of SAD may experience greater impairment in in all three major life domains (work, studies, and social life) compared to individuals with a nongeneralized subtype (Aderka et al, 2012). Furthermore, SAD has been found to be a risk factor for reoccurring depressive symptoms and substance abuse disorders, particularly in young adults (Stein & Stein, 2008; Stein et al., 2001; Buckner et al., 2007). In addition, the gradually onset of SAD has been found to be associated with a number of personal risk factors such inadequate "social skills and negative peer status, as well as family-related factors such as parental psychopathology, heritability estimates and temperament, anxiogenic parenting, and transmission of interpretation bias" (Knappe, Sasagawa & Creswell, 2015).

Social Anxiety

The self-presentation approach theory provides an explanation for the behavioural and cognitive operations associated with social anxiety disorder (Schlenker & Leary, 1982). This theory states that SAD is defined by a prematurely perceived negative response to a real or imagined social situation. A study on the functional neuroimaging of human anxiety disorders (PTSD, SAD, specific phobias) found that patients with any of the three of these disorders consistently showed greater activity in the amygdala which is located in the medial temporal lobe and plays a role in the perception of threatening stimuli, and the insula which is located within the lateral sulcus and plays a role in processing information conveying disgust from human facial expressions. During fear conditioning, an analogou**s** sequenc**e** was documented amongst the neurotypical participants, which displayed a commonly detected hyperactivation in the amygdala and insula, although this was only found in those with SAD or specific phobias (Etkin, Tor & Wager, 2007). Therefore, it could be said that this provides evidence that social anxiety is associated with changes in the brain, and that understanding the biological mechanisms underlying social anxiety might tell us more about the disorder.

In this section, social anxiety will be examined in relation to its relationship with loneliness. Although there is a great deal of literature that deals with social anxiety and loneliness, the relationship between these topics is less researched than that of the relationship between loneliness and other mental illnesses such as depression (Lim et al, 2016). Older studies such as that by Leary (1990) built on the Baumeister and Tice social exclusion theory of anxiety and examined the correlation between social exclusion, social anxiety, jealousy, loneliness, depression, and low self-esteem. Modern research has tended to focus on the interaction of the two variables and one or two other variables specifically. Storch and Masia-Warner (2004) found that direct and affiliative victimization were

positively correlated with FNE, loneliness, and social avoidance of both usual and novel situations in adolescent girls. Caplan (2007) found that the connection between loneliness and predilection towards online social interaction is over assumed and highly unreliable, and that this effect is created by the presence of the confounding variable SA.

More recent literature would include the multi-level meta-analysis by Maes et al (2019) which examines 102 cross-sectional designs released between 1981 and 2016, (41,776 participants, 61% females and 39% males, M age was 15.59) and 10 longitudinal designs (3,995 participants, 54% Females and 46% males). Using moderation analysis and a novel meta-analysis technique which is based on the cross-lagged regression analysis, Maes et al (2019) found a strong, positive, cross-sectional association between loneliness and social anxiety symptoms and a slight bi-directional relationship in the longitudinal studies. Hence SA and loneliness symptoms were found to be positively associated "within and across time". These associations did not systematically differ in strength between childhood and adolescence. Research has also found that in a large general community sample of 1010, earlier development of loneliness predicted future SAD, paranoia, and depression although earlier development of social anxiety singularly predicted future feelings of loneliness (Lim et al, 2016). This longitudinal study suggests that SAD may be an antecedent to mental health issues and that the development of SAD treatment and prevention may reduce future feelings of loneliness.

Loneliness

To fully comprehend loneliness, it is important to understand that it has been defined as an aversive state that arrives when a discrepancy exists between one's perception of the ideal interpersonal relationships and their perceived reality (Rubin, Perse & Powell, 1985). Weiss (1973) described loneliness as the experience of "emotional and social isolation, as

well as feelings of emptiness, anxiety, restlessness, and marginality". Weiss (1974) theorised that there are six provisions that come from strength in social relationships. These are attachment, social integration, opportunity for nurturance, reassurance of worth, reliable alliance and guidance. These qualitative elements of relationships could define how one might view inadequacy in their own relationships and that the development of one's worth is reliant on relationships that provide clear evidence of an individual's competence. According to a study Singh & Kiran (2013) loneliness has been found to be more prominent in women although some research claims that there is no difference. Consistent with Loneliness research, Asher, Asnanni & Aderka (2017) found that females are more likely to report higher levels SAD than males, although males are more likely to seek treatment. This result correlates with a study by another Asher and Aderka (2018) which found that females are more likely to have SAD, comorbid specific phobia, generalised anxiety disorder and PTSD. Asher and Aderka (2018) state that unlike other types of anxiety disorders, gender differences in social anxiety has been given less "empirical attention" in the research.

Evaluation anxiety

In this section, evaluation anxiety will be defined according to its relationship with social anxiety and recent research will be outlined which supports its relevance as a possibly major component of social anxiety. A study by Greca et al (2010) found a significant correlation between SAD symptoms, trait anxiety and FNE in children. Lower grades and the presence of neglect were found to be indicative of higher SAD scores. Additionally, males were found to report lower FNE scores than the females in this sample. Evaluation anxiety, which when at a moderate degree may serve a function, which is that realistic ideals about other opinions will incite socially appropriate responses (Zeidner & Matthews, 2005). Zeidner and Matthews (2005) argue that other various affective constructs such as speech

anxiety are conceptually distinct, but all rely on under lying elements of social anxiety to be present. This is classified by Schlenker and Leary (1982) as a noncontingent interaction of audience anxiety (one of the two anxiety classifications along with interaction anxiety). A study by Cornwall et al (2006) found that fear of negative evaluation was positively correlated with startle reactivity in socially threatening environment (public speaking anticipation in a VR situation). In response to this result Cornwall et al (2006) suggested that context-specific startle modification may be an endophenotype for subtypes of anxiety pathology. The implication of this is that there may be a genetic contribution to the cause of anxiety in occurrence with psychological input. Other theories of social anxiety involve self-regulation theories. One of these is the self-referent executive functioning theory of emotional distress (Wells & Matthews, in press). This states that anxiety and worry are generated by individual differences in the procedural and declarative memories held by the long-term memory. According to Zeidner and Matthews, this is dictated by one's susceptibility to mental vulnerability and reaction to perceived threat stimuli. In relation to the relationship between Loneliness and EA, higher EA and lower self-esteem were found to be predictive of loneliness (Geukens et al., 2020).

There are few studies that incorporate social anxiety, fear of negative evaluation and loneliness as the key concepts. Liu et al (2020) administered measures of social anxiety, loneliness, fear of negative evaluation, and self-compassion to 871 Chinese adolescents aged 13 to 18 years old (M = 15.18). 469 of the participants were male (53.9%), 395 were female (45.3%) and 7 (0.08%) did not provide a gender. A serial mediation model was employed in this study. Results stated that self-compassion was negatively correlated with loneliness, while SA and FNE were found to be mediators in this relationship. In essence, adolescents high in self-compassion were less fearful of negative evaluation, emanating in diminished symptoms of SA. Consecutively, diminished SA was associated with decreased feelings of

loneliness. MacEvoy et al (2016) employed measures of loneliness, fear of negative evaluation, friendship quantity, friendship effort, friendship satisfaction, and friendship expectations on 499 children (239 Males, 260 Females, M age = 9.88) as an indicator of their social anxiety levels. Results found that decreased FNE and feeling of loneliness are linked with higher friendship expectations, having more friends and higher friendship satisfaction. Lamport and Zlonke (2014) conducted a regression analysis which found loneliness was not predicted by social interaction anxiety, FNE or a broader autism phenotype (BAP), in a sample of third level students. Although, these predictors did explain 48% of the variance in loneliness scores amongst male participants. Additionally, increased feelings of loneliness were indicated by higher social interaction anxiety, lower social skills, and lower imagination in males. Therefore, social interaction anxiety and BAP may not necessarily indicate social functioning in females, although it does seem to be imperative in its prediction of subjective feelings of loneliness in males.

In conclusion, social anxiety and evaluation anxiety are theorised to be the result of a personally magnified, socially induced stressor which is in response to stimulus which has been perceived as threatening. Loneliness is theorised as the psychological need for social relationships that adequately compare to one's own standards. These terms can be correlated in clinical research although there has yet to be research conducted on all three on a general population in an Irish context. Research in gender differences in the three constructs tend to show that higher scores are more prevalent in women although, there is only a small volume of research in this area so any deviation from the research may be due to sampling error in previous literature.

The Present Study

To the author's knowledge, no previous studies have examined whether loneliness and evaluation anxiety predict social anxiety in an Irish general population sample. This is particularly important because research has yet to examine the predictive strength of loneliness and evaluation symptoms on levels of SA in a community sample, hence why a study on these topics can be classified as a gap in the literature. Social anxiety is a common form of anxiety (Stein & Stein, 2008) and one of the most common mental illnesses in the world with up to a 16% prevalence in western studies (Talepasand & Nokani, 2010), although Irish research specifically is lacking. The overall aim of this study is to test specific hypotheses relating to social anxiety in an Irish sample because the advancement of SA research and the understanding of its strongest predictors can help the ongoing development of treatment and prevention services, such as cognitive behavioural therapy (CBT) which is currently considered the gold standard non-pharmacological treatment for SAD (Chapdelaine et al, 2018). It should be stated that relationship between loneliness and EA as the core variables of a study, is under-researched in the literature. Therefore, it could be beneficially to examine this relatively novel relationship. The sample chosen to be collected is a general population sample in Ireland. As the research tends to focus on specific and generally more at-risk populations such as minors, students, the elderly or those on the autistic spectrum (Ginsberg & La Greca, 1998; Bögels, Oosten, Muris & Smulders, 2001; Ciliberti et al, 2011; Gretarsdottir et al, 2004; Domènech-Abella et al, 2019; Villarosa-Hurlocker & Madson, 2020; Purdon, Antony & Monteiro, 2001; Bellini, 2004; Bellini, 2006; Kuusikko et al, 2008; Maddox & White, 2015; Spain et al, 2018; Spain Yarar & Happe, 2020). Hence, research regarding the prevalence and intensity of symptoms in a current general population sample is under researched.

The first research question is how much variance in social anxiety scores can be explained by loneliness, evaluation anxiety and other demographics? Which of these variables are the best predictor? Hypothesis 1: Higher loneliness, higher evaluation anxiety, and gender correlate with and predict social anxiety scores in a sample of an Irish general population sample. Null hypothesis 1: Higher loneliness, higher evaluation anxiety, and gender do not correlate with or predict social anxiety scores in an Irish general population sample.

The second research question is will there be a relationship found between higher levels of loneliness and higher levels of evaluation anxiety? Hypothesis 2: There will be an interaction effect found between levels of loneliness and levels of evaluation anxiety in an Irish general population sample. Null Hypothesis: There will not be an interaction effect found between levels of loneliness and levels of evaluation anxiety in an Irish general population sample.

The third research question is will there be a gender difference in either social anxiety scores, loneliness scores or evaluation anxiety scores. Hypothesis 3: There will be a significant gender difference in social anxiety, loneliness, and evaluation anxiety scores in a general population sample. Null Hypothesis 3: There will not be a gender difference in social anxiety scores, loneliness scores or evaluation anxiety scores in an Irish general population sample.

Methods

Participants

The research participants in this study was selected using convenience sampling, a non-probability form of participant collection based on availability. This is due to the need for the simplification of sampling due to time constraints, no funding and in addition, the study is at an under-grad level therefore, limiting access to certain populations. Despite this, non-probability will most likely introduce sampling bias due to reduced generalizability. The study was advertised on social media by the researcher. In addition, participants were asked to share the social media post to recruit more participants using snowball sampling, another non-probability sampling method which relies on current participants to recruit new participants. This was because face to face recruitment is limited due to covid-19. Participants were expected to fill out the questionnaire in their own time but may use the contact details for further information. The survey was cut off for female participants after 161 females and only 60 males were collected. It was then readvertised for only male participants.

The sample consisted of 251 participants, 161 females and 90 males aged between 18 and 75 years old and of Irish nationality. The average age was 35 years old and the average number of years in education was 15 years. G*Power software was used to determine the minimum sample size required to provide the measure with the adequate strength in its ability to correctly detect a significant effect in the population. The minimum sample size required for the first research question is 119 participants (effect size: 0.15), , 251 participants for the second research question (effect size: 0.25, df: 2, groups: 3) and 236 participants (two-tailed) for the third research question (2 Females: 1 Male). The survey had to be closed off for females to increase male responses because the larger the gender difference the higher the sample size required. For example, the sample size required for the gender ratio 3:1 was 280 participants as opposed to 236.

Measures

The google forms online survey was the only material required to take part in this survey. The survey was comprised of three, previously developed, Likert scale measures, the Revised UCLA loneliness Scale (Russel, 1996), the Liebowitz Social Anxiety Scale (Liebowitz, 1987) and the Brief Fear of Negative Evaluation Scale (Leary, 1983). The exact questions are recorded in the appendix.

The Revised UCLA Loneliness Scale (Russell, 1996) is the most common and widely acknowledged measurement scale of loneliness (Durak & Senol-Durak, 2010). This measure is comprised of 20 items, all with 4 responses ranging from 1 (never) to 4 (often). Questions which are positively worded need to be reverse scored so as higher scores related to higher levels of loneliness. These are questions 1, 5, 6, 9, 10, 15, 16, 19 and 20. The UCLA LS3 was found to produce high internal consistency (a = .91) , positive concurrent validity (r =−.55, p < .001), stable test-retest reliability (.93, p < .001) (Zarei et al., 2016); and convergent (PNLS (r = .73, p < .0005), and PDLS (r = .69, p < .0005) and discriminant validity ((r = .65; 72, p < .001) (Lasgaard, 2007). Lasgaard (2007) found that the UCLA LS3 could be described as unidimensional in structure through the implementation of an exploratory factor analysis. A limitation of The UCLA LS3 is that many argue that loneliness should be more multidimensional in nature and that this measure does not answer for the differential relations between different forms of loneliness (Trait and state) (Van Roekel et al., 2016; Van Roekel et al., 2018).

The Liebowitz Social Anxiety Scale (Liebowitz, 1987) is the most used clinically administered self-report scale of social anxiety (Baker at al., 2002), although it could be said that more research needs to be done with community samples (Heimberg et al, 1999). The Liebowitz Social Anxiety Scale is a 24-item questionnaire with 13 questions relating to evaluation anxiety and 11 questions relating to social situations, also with 4 responses. The

24 items each describe a social situation, the responses are divided into two subscales part A. the fear or uncomfortableness towards this situation. This is rated from 0 to 3 (none, mild, moderate, and severe). Part B. relates to avoidance behaviour, meaning how often the person would normally avoid the situation. This was also rated from 0 to 3 (never, occasionally, often, and usually). The LSAS does not include any items that need to be reverse scored. In addition, the LSAS was found to produce "excellent" internal consistency (.98; .95; >.79), significant convergent ($p < .001$) and discriminant validity (0.78 to 0.85 (all ps<0.01), and test-retest reliability (r=0.83, p<0.01) ((Heimberg et al., 1999; Fresco et al., 2001, Baker et al., 2002). Rytwinski et al (2009) found this measure sufficient in its ability to identify those with a clinical-assessed social anxiety disorder or a generalised subtype, despite the earlier claims of Heimberg et al (1999), whom stated that the LSAS "may not be sufficiently distinct in clinical samples".

The Brief Fear of Negative Evaluation scale (1983) is a widely used (Duke et al., 2006), 12-item questionnaire which measures fear of negative evaluation. The BNFE scale is a condensed version of the original 30-item Fear of Negative Evaluation scale (Watson & Friend, 1969). The response ranges from 0 (very uncharacteristic of me) to 5 (extremely characteristic of me). Question 2, 4, 7 and 10 need to be reverse scored so as higher scores equate to higher levels of evaluation anxiety. The BFNE scale was shown to produce high interitem reliability when tested on undergraduate students in Leary's study (1983). In addition, the BFNE has been shown to produce high test-rest reliability (r = .94) and high inter-term reliability (a = .97) in a clinical sample (Collins et al., 2005) and internal consistency (a = .94) in a nonclinical, nonstudent sample (Duke et al., 2006). An overall score for each measure was calculated by adding up the value for each question (after reverse-scoring some of the items).

Design

The study is quantitative in nature and is a between-subjects design. This is because although the first research question is examining differences between participants, participants were only examined at one time point. In addition, the second, and third research questions are undoubtedly a between subjects' factorial design because it examines different groups of participants under the same conditions. This study would also be categorised as a cross-sectional study which is a type of observational design whereby the predictor variable cannot be directly manipulated by the researcher. In the first research question, the predictor variables are gender, age, loneliness and evaluation anxiety and the criterion variable are social anxiety scores. In the second research question, the independent variables are evaluation anxiety group and loneliness group and the dependent variable is social anxiety scores. Lastly, in the third and fourth research questions the independent variables are gender and age group and the dependant variable are SA, EA, and loneliness scores.

Procedure

Primarily, the participant viewed a post on social media advertising this study. Participants were then encouraged to share the post to reach a wider scope of people. The survey was online, using the google forms format. The survey was to be taken in one's own time and so scheduled breaks are not necessary, but they are possible because the answered questions do not reset as you freely switch between different apps. The participant was provided with various important details in the social media post regarding the nature of the research, duration of the survey, final date to take part, their right to anonymity and the online link to take part. An information section and consent notice appeared before the beginning of the survey. This provided all the information regarding withdrawal and confidentiality policies, exclusion criteria (including a need to be of Irish nationality), and all other necessary information.

Then, the demographics of gender, age and years of education were collected, followed by the Liebowitz Social Anxiety Scale (Liebowitz, 1987), the Revised UCLA Loneliness Scale (Russell, 1996) and the Brief Fear of Negative Evaluation Scale (Leary, 1983) which took approximately 10 minutes overall to complete the 56 questions. Lastly a reminder appeared to ensure participants understand that they will lose their right to withdraw their data once the survey has been submitted. A debriefing section could be read after the commencement of the survey. This includes a word of gratitude; the researchers contact details and the contact details of various support services in case of any distress caused by their involvement in the study. The exact survey questions, scales used, information brief and debriefing statement can be viewed in the appendix.

There was no pilot study conducted for this research because there is no new intervention, questionnaire, scale, or question(s) being used. Previous scales are being implemented together to compare a new combination of variables. The questionnaires being used in this study are highly established methods of measurement in the research. Additionally, these questionnaires are not being used on a novel or vulnerable population.

The data analysis for this study will be calculated using the statistical software SPSS 27. First, the survey data was transferred from google forms to excel using the responces settings on google forms. The data was then transferred from execel to SPSS after changing the .ipv. Firstly the data set had to be screened proir to any statistical analysis. This consists of calculating total scores and altering any of the written anwers. For example, for the age and years of education questions, a blank space was given so as the participant could write their own answer as opposed the choosing from certain options. Although, instructions were given to write a number, some answers consisted of words which needed to be amended (for exaample, fifthteen years). Then, descriptive statistics were calcuted in order to summerise

and describe the data using the measures of central tendency and variation. A preliminary analysisis was conducted to check for any inconsistensies or irregularities in the data such as issues in normality, linearity and homoscedasticity. Therefore, this would require that a non-parametric alternative test be used if available. Freqeuncys were calculated for categorial variables (gender) and measures of central tendency and variability, normality and outliers and extreme score were calcuated for continious variables (age, years of education, loneliness, evaluation and social anxiety).

In addition, inferential statistics were run to allow us to use this sample to make inferences about the population based on our hypotheses.The first hypothesis was tested using a multiple hierarchical regression. This test investigates the relationship between two or more continuous or categorical predictor variables (gender, age, evaluation anxiety and loneliness) and one continuous criterion variable (social anxiety). The second hypothesis was tested using a two-way between-groups or factorial ANOVA. This test investigates the difference between 2 categorical independent variables, one with two or more levels (evaluation anxiety group and loneliness group) and one continuous dependent variable (social anxiety). An ANOVA was chosen to examine the interaction effect as the direct effects of these two predictors were already examined in the regression. The third hypothesis was tested using one independant samples t-test and one Mann-Whitney U test as the data was not regularly distributed. A test did not have to be conducted for gender and SA because the question was already addressed through the hierachial regression. The tests that were conducted investigate the difference between one categorical IV with 2 levels (gender) and one continious DV (EA and loneliness scores). The fourth hypothesis was tested using one independent samples t-test, and two Mann Whitney U test. The tests that were conducted investigate the difference between one categorical IV with 2 levels (age group) and one

continious DV (SA, EA, and loneliness scores). The age group variable was computed by conducting a median split on the orginal age variable.

Ethics

A briefing segment was included before the survey and a debriefing segment was included after the survey to ensure that the participant is confident in their participation and that any fears or uncertainties are eased. The brief includes the following information: information about the researcher, contact details, the nature of the research, the nature of the participant experience, possible benefits/disadvantages, duration, data protection and the right to withdraw until completion and submission. The debriefing includes a word of gratitude, the aim, a short rationale, what was expected to be found, contact details, a reminder of the withdrawal policy and helplines and various avenues for further support in the event of distress due to involvement in the study. In addition, consent and proof of age is asked directly before the survey is presented.

There is no risk of physical harm to the participants because the study is a survey to be taken in one's free time but there are multiple minor psychological risks. An example of a possible distress response which may arise due to participation in this study is the inclusion of stimuli which may resonate with participants personal experiences resulting in intrusive thoughts after the conclusion of the study and additionally there may be possible feelings of inadequacy due to the sensitivity of the subject matter. Lastly, prior to the commencement of this recruitment, an Ethics Application was completed by the author and submitted to National College of Ireland whereby ethical approval for the research project was granted by the College.

Results

Descriptive Statistics

The sample consisted of 251 participants, 161 females (64.1%) and 90 males (35.9%). Table one presents the descriptive statistics for age, years of education, the two subscales of the social anxiety measure: social anxiety fear and social anxiety avoidance, social anxiety total, fear of negative evaluation and loneliness.

Table 1

Descriptive statistics for the continuous variables.

Variable	*M* [95% CI]	*SD*	Range
Age	34.39 [32.86, 35.92]	12.29	18 – 75
Education	15.20 [14.92, 15, 48]	2.28	8 – 22
Social Anxiety Fear	54.82 [52.73, 56.91]	16.82	24 – 96
Social Anxiety Avoidance	52.57 [50.51, 54.62]	16.51	24 - 96
Social Anxiety Total	107.39 [103.30, 111.48]	32.90	48 – 192
Fear of Negative Evaluation	41.75 [40.35, 43.14]	11.21	12 – 60
Loneliness	49.37 [47.89, 50.85]	11.91	22 - 88

Inferential Statistics

The Analysis for Research Question One

Hierarchical multiple regression was performed to investigate the ability of loneliness scores to predict levels of social anxiety, after first controlling for demographic variables

(sex, age, and years of education) and then controlling for evaluation anxiety. EA was also viewed as a main predictor of social anxiety. EA was controlled for simply to be able to view the difference in variance percentage between EA and loneliness on social anxiety. The Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Additionally, the correlations amongst the predictor variables (gender, age, years of education, evaluation anxiety and loneliness) were examined and these are presented in Table 2. All correlations ranged between r = -.02 to .67. Tests for multicollinearity also indicated that all Tolerance and VIF values were in an acceptable range. These results indicate that there was no violation of the assumption of multicollinearity and that the data was suitable for multiple linear regression analysis.

In the first step of hierarchical multiple regression, three predictors were entered: gender, age, years of education. This model was statistically significant F (3, 247) = 5.98; p = .001 and explained 6.8% of variance in social anxiety (see Table 2 for full details). After the entry of evaluation anxiety at Step 2 the total variance explained by the model was 46.1% (F (4, 246) = 52.70; p < .001). The introduction of evaluation anxiety explained an additional 39.4% variance in social anxiety scores, after controlling for gender, age and years of education; a change that was statistically significant (R2 Change = .394; F (1, 246) = 179.84; p < .001). After the entry of loneliness at Step 3 the total variance explained by the model was 57.6% (F (5, 245) = 66.48; p < .001). The introduction of loneliness explained an additional 10.8% variance in social anxiety scores, after controlling for gender, age, years of education and evaluation anxiety; a change that was statistically significant (R2 Change = .114; F (1, 245) = 65.95; p = < .001), (see figure one). In the final model, three PVs uniquely predicted social anxiety to a statistically significant degree; age, evaluation anxiety and loneliness. All three variables were positive predictors of social anxiety and loneliness (β =

.42, p < .001) was the strongest predictor with evaluation anxiety following very closely behind (β = .40, p < .001) (see Table 2 for full results).

Table 2

Inner correlations (Pearson's r) between model variables.

Variable	1.	2.	3.	4.	5.	6.
1. Social Anxiety	-					
2. Gender	-.10*	-				
3. Age	-.22***	.15**	-			
4. Education	-.07	-.02	-.21***	-		
5. Evaluation Anxiety	.65***	-.30***	-.19**	.03	-	
6. Loneliness	.67***	-.04	-.06	-.10	.58***	-

Note: Statistical significance - *p < .05; **p < .01; ***p < .001

Table 3

Hierarchical multiple regression table predicting social anxiety.

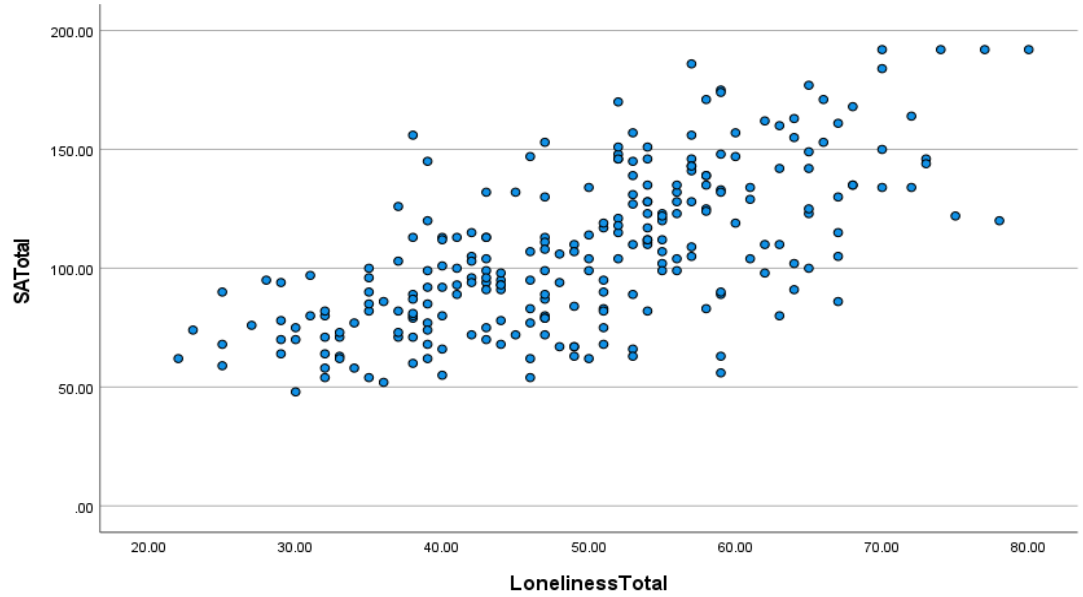
Variable	R^2	R^2 *Change*	*B*	*SE*	*β*	*t*	*p*
Step One	.07**						
Gender			-4.80	4.26	-.07	-1.13	.261

Age			-.63	.17	-.24	-3.73	.000
Years of Education			-1.69	.91	-.12	-1.86	.064
Step Two	.46***	.39***					
Evaluation Anxiety			1.95	.15	.67	13.41	.000
Step Three	.58***	.11***					
Loneliness			1.17	.14	.42	8.12	.000

Note: Statistical significance - *p < .05; **p < .01; ***p < .00

Figure 1

A visual representation of the relationship between loneliness and social anxiety detailed using a scatterplot.



The Analysis for Research Question Two

A two-way between groups ANOVA was conducted to explore the impact of evaluation anxiety and loneliness scores on levels of social anxiety. This ANOVA was

primarily performed to examine the interaction effect because the main effects were also examined in the hierarchical regression. Participants were divided into three groups according to their loneliness and evaluation anxiety scores (group one having the lowest levels of the loneliness and evaluation anxiety and group three having the highest). Responses were totalled for each participant and the highest third of the sample were put into the "high" category, and the lowest third of your sample were put into a "low" category for these two variables. The interaction effect between loneliness group and type of evaluation anxiety group was not significant ($F (3, 243) = 0.96$, $p = .412$). There was a statistically significant main effect for loneliness group, $F (2, 243) = 14.02$, $p < .001$; the effect size was an extremely high medium (partial eta squared = .10). In addition, there was a statistically significant main effect for evaluation anxiety group, $F (2, 243) = 22.35$, $p < .001$; the effect size was large (partial eta squared = .16).

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for loneliness group three ($M = 147.67$, $SD = 30.97$) was significantly higher ($p < .001$) than group two ($M = 116.06$, $SD = 30.22$) and group one ($p < .001$; $M = 85.52$, $SD = 20.44$). There was also a statistically significant difference in mean scores between group two and group one ($p < .001$). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for evaluation anxiety group three ($M = 128.86$, $SD = 29.27$) was significantly higher ($p < .001$) than group two ($M = 96.18$, $SD = 24.96$) and group one ($p < .001$; $M = 76.13$, $SD = 18.24$). Additionally, there was a statistically significant difference in mean scores between group two and group one ($p < .001$).

The Analysis for Research Question Three

Levene's test for equality of variance was not significant for both social anxiety ($p = .95$) and evaluation anxiety ($p = .73$); therefore, the data does not violate the assumption of

homogeneity of variances. Levene's test for equality of variance was significant for loneliness ($p = .40$); therefore, the second line in the table (equal variances not assumed) was used. Tests for normality revealed that evaluation anxiety (Kolmogorov-Smirnov: $p = .002$) and social anxiety ($p = .018$) were non normally distributed. The remaining variable loneliness was normally distributed ($p = .20$). An independent samples t-test was conducted to compare levels of loneliness between males and females. There was not a significant difference in scores between females ($M = 49.71$, $SD = 11.13$) and males ($M = 48.76$, $SD = 13.22$), $t(159.54) = .58$, $p = .56$, two-tailed.

There was no need to run a Mann Whitney U Test to examine the differences in social anxiety score between males and females because this was already examined this in the hierarchical multiple regression (in Block 1), and gender correlated with social anxiety scores to a statistically significant degree in your correlation analysis ($p < 0.05$) but gender did not significantly predict social anxiety in the hierarchical multiple regression model ($p = 0.261$). However, a Mann Whitney U Test was conducted to compare levels of evaluation anxiety between males and females. There was a significant difference in evaluation anxiety levels, with males ($Md = 36$, $n = 90$) scoring significantly lower than females ($Md = 46$, $n = 161$), $U = 4705.50$, $z = -4.61$, $p < .001$. The effect size is 0.3, which according to Cohen (1998) can be categorised as a medium effect size.

Discussion

In the current study, a general community sample of 251 was collected, to investigate the relationships between loneliness, evaluation anxiety and social anxiety within an Irish context. The current study sought to provide a greater understanding of the components involved in the development of social anxiety among the Irish general public by examining the strength of two common SA research topics (loneliness and evaluation anxiety), in their abilities to predict levels of social anxiety. Gender and other demographics were also examined to create a comprehensive, demographic profile of a social anxiety sufferer in Ireland. To the author's knowledge at the time of the submission of this study, there was no study that examined the interrelations of these topics in an Irish sample.

Expanding on previous literature, H1 hypothesized that there would be a predictive relationship between loneliness, evaluation anxiety and social anxiety. This was examined using a hierarchical multiple regression; from this it was found that age, evaluation anxiety and loneliness all individually predicted social anxiety in the final model. These findings suggest that higher rates of evaluation anxiety, higher rates of loneliness and a lower age were found to be associated with higher levels of social anxiety. This is consistent with previous research which also found a relationship between social anxiety and evaluation anxiety and loneliness (Greca et al., 2010; Zeidner & Matthews, 2005; Hoffman, 2019, Caplan 2007; Lim et al., 2016, Maes et al., 2019). Unusually, a significant correlation was found between gender and social anxiety, whereby gender was found not to be significant predictor of SA in the regression model. This would mean that gender correlates with social anxiety but does not predict social anxiety when also controlling for the other variables. Although, being either male or female did not determine higher levels of SA in this sample. This conflicts with prior research (Asher, Asnanni & Aderka, 2017; Asher & Aderka, 2018; Xu et al., 2012; Espinosa et al., 2008) that found SA to be predominately higher in females.

Although, upon further examination there was conflicting research which found that there was no gender difference (Moscovitch, Hofmann & Litz, 2005). This discrepancy in the research may be due to a difference in measures whereby previous research examined differences in descriptive factors such as lifetime prevalence, treatment characteristics, coping behaviours and comorbidity, opposed to simply testing for higher scores on a SA scale. Equally, it was found that gender differences are not consistent between diagnosed SAD sample and the general community experiencing SA symptoms (Xu et al., 2012).

The variable 'age' was tested in Block One of the HMR to control for any typical confounding variables which may arise from age-related events such as differences in stages of neurocognitive progression and maturation. It could be said that it was not expected that age would be found to be a statistically significant predictor of SA, based on the research examined in the literature review of this study. Research examined after the data analysis found age is a common variable in SA research (Ranta et al., 2007; Stirling, Elay & Clark, 2006; Peleg, 2012; Dalrymple & Zimmerman, 2011), although it is more common in age of SA development research as opposed to the prevalence amongst adults in particular area such as in this study. Henceforth, it could be of interest to report the effect size of the age difference that was found in among an Irish community sample. An example of an additional research question that could be employed to this study is 'do young people in Ireland suffer from poorer mental health (anxiety disorders and reoccurring feelings of isolation) than other Irish populations?'. It may also of interest to test for an age difference in the symptoms of other disorders. This is important due to the extremely high prevalence of mental health issues in young people in Ireland (Cannon et al., 2013), so it could be said that exploring the prevalence of anxiety disorders in young people is important for future clinical developments and healthcare policy (Creswell, Waite & Hudson, 2020) .

For H2, a factorial ANOVA was employed to investigate if there was an interaction effect between higher levels of loneliness and higher levels of evaluation anxiety. The main effects had already been examined in the multiple regression. As was expected, the overall model was significant. The additional testing on the main effects did provide additional information on the first hypothesis. As it was found that the magnitude of the effect found (higher loneliness will predict higher levels of social anxiety) has a strong moderate chance of being detected in in the entire population. Equally, it was found that the magnitude of the effect found (higher evaluation anxiety will predict higher levels of social anxiety) has a large chance of being observed in in the entire population. However, the interaction effect was found to be non-significant. These finding indicate that reoccurring or prominent feelings of loneliness does not necessarily coincide with tendencies towards fear of being negatively evaluated. This does not correlate with the existing literature (Guekens et al., 2020). In response to this, it could be said that this area is quite unresearched, so it is difficult to make any concrete statements in relation to previous literature. Upon further research, FNE literature is more commonly associated with the term ‘fear of social exclusion’ than with loneliness, in studies where these terms are the key concepts (Lantian et al., 2018; Tanaka & Ikegami, 2019; Tanaka & Ikegami, 2015). Future studies may wish to revise this study based on this information.

Lastly, H3 stated that there would be gender differences found for levels of social anxiety, loneliness, and evaluation anxiety. Results from a t-test and a Mann Whitey U test showed that females scored higher on the evaluation anxiety but there was no gender difference found for levels of SA and loneliness. This suggests that women report a atronger tendency towards evaluation anxiety than men. This indicates that females are significantly more insecure in relation their abilities than males. Possibly due to women generally exhibiting a stronger fear of being judged in a multitude of environments, as evident in

various studies (Spencer, Steele & Quinn, 1999; Gilbert & Meyer, 2005; Chang, Jarry & Kong, 2014; Liss, Schiffrin & Rizzo, 2013). Previous research supports the hypothesis that there is a gender difference, although stating which gender is most affected is inconsistent (Greca et al., 2010; Trompeter et al., 2018; Kornienco & Santos, 2014; Corcoran & Segrist, 1998; Biolcati, 2017). The non-significant result found for loneliness was not indicative of previous research which did find a gender difference, although again it was varied in which gender (Singh & Kiran, 2013; Ren et al., 2020; Barreto et al., 2020). Furthermore, this result did coincide with a three-level meta-analysis of 751 effect sizes, covering 399,798 individuals (45.56% males), which found little to no gender difference in levels of loneliness across the lifespan (Maes et al., 2019). Based of the above findings, the first and third null hypotheses are partly rejected. Meaning that the overall hypotheses were rejected but various elements were found to be significant. In addition, the second null hypothesis failed to be rejected outright.

Strengths and Limitations

This study has several limitations some of which will be addressed in this section. The research design that was employed in this study (cross-sectional) depended on data collected through a survey. Hence, it may be beneficial for future studies to implement further qualitative methodology in their research design to become more aware of the anxiety sufferers' perceptions and concerns regarding social anxiety. Additionally, it is important to investigate the knowledge and awareness held in relation to the anxiety coping and treatment services available in Ireland. Additionally, online survey research such as this, does not allow for direct contact with the participants regarding questions and concerns Therefore, confusion may occur. SA, EA, and loneliness status in this study was derived from the LSAS-SR, BFNE-SR and UCLA LS-SR, none of which are a structured diagnostic measure in nature. Thus, the inferences made in this study are tentative and additional research using more

formal diagnostic assessments of these topics and other psychiatric diagnoses may be warranted. In this case the BFNE scale would need to be revised as it was found that the measure is not sufficiently sensitive enough in its ability to detect an effect in a clinical SAD population (Weeks et al., 2005). Another limitation of the cross-sectional design used here is the inability to infer causality or the possible bi or unidirectionality of the relationship examined. This is because the correlations between risk factors and their possible consequences are calibrated in concurrence with one another.

Attitude research has shown that there can be stigmatizing biases towards mental health in Ireland which in turn could affect how people may have answered the survey (Barry, 1994; Happell et al., 2018, Gaffery, Evans & Walsh, 2016; Kearns et al., 2019; Higgins et al., 2021). Furthermore, it is difficult to prevent this, although the fact that the survey was completely anonymous may helped to alleviate this occurrence. Lastly, a more comprehensive list of demographics could have been collected to create a more solid demographic profile of social anxiety sufferer in Ireland, to best understand the most at risk groups. Demographic that could be collected in future research include geographic information (urban, rural etc), ethnicity, marital status, and religion. In relation to geographic information, the participants were mostly located in Dublin and Wexford; therefore, it could be said that the results are not generalisable to the whole Irish population.

The reliability analysis preformed on all three measures produced extremely high internal consistency ratings. This would be classified as a strength in the methodology of the study as this suggests that the measures used were sensitive enough to pick up on any statistically significant psychological effects in the sample. This indicates that the results of this study should be interpreted as notably valid in terms of the measure's detection abilities. The Cronbach's alpha for the Liebowitz Social Anxiety Scale was .967 and the Cronbach's alpha based on standardized items was .977. The Cronbach's alpha for the Brief Fear of

Negative Evaluation Scale was .912, and the Cronbach's alpha based on standardized items was .910. Both the Cronbach's alpha and the Cronbach's alpha for standardized items was found to be .943 for the UCLA Loneliness Scale V3. These results may suggest that participants were paying particular attention to each individual question, as opposed to quickly pressing random items. Despite the limitations of cross-sectional research such as that addressed in the limitations section, assessing the prevalence of mental health related characteristics is imperative in public healthcare so as to accurately assess the burden of specific anxiety disorders in a specified population and in planning and allocating health resources. In addition, this study is beneficial to research for generating future hypotheses in experimental and longitudinal research. Further strengths of the research are the largely varied age range of the participants, the ratio of two females to every one male (an even split would be optimal but is not always achievable) and a relatively large sample size for undergraduate research.

Implications

There is continually expanding research that strongly suggests that there is a relationship between SA, EA, and loneliness. Hence, the practical implications of this study are that the negative effects of loneliness and fear of negative evaluation should be confronted to prevent the development of social anxiety disorder and social anxiety symptoms. Social anxiety is also positively correlated with youth, but it is not associated with gender. On the contrary, women were found to exhibit stronger tendencies towards feelings of evaluation anxiety than men. Based on the findings of this study, the broader implications from a societal context, are that the policymakers and the Irish government could greatly enhance their anxiety services in the long term, by implementing a new policy outlining the adverse consequences of poor social abilities and feelings of social exclusion on the development of anxiety disorders. Additionally, health guidelines regarding the impact of

these factors on the development of social anxiety, should be put into healthcare practice by the Health Service Executive (HSE). It is likely that these recommendations would lessen the ruinous associations linked to the depreciation of one's mental health and the development of anxiety disorders. The utilization of these proposals could reduce the negative consequences of SA, and may conclude in supplementary resources for the healthcare sector, which could be implemented in prevention services in counter to just anxiety management and aftercare, as SA symptoms are highly correlated with depression and substance abuse disorders (Stein et al., 2008).

It could be said that the effect of loneliness on the development of social anxiety, currently has immense relevance in relation to the mental health of all those affected by the current corona virus pandemic. It is important to understand how the perceptions of our social relationships affects the development of a wide range of anxiety disorders and various mental health conditions, considering the ever-increasing periods of solitude and alienation from all elements of a well-balanced lifestyle. This current study could be developed to test for how prolonged periods of loneliness affect the development of generalised anxieties and depression in the wake of a global pandemic. In addition, it may be beneficial to collect information on the use of technology to stay socially connected (zoom etc), and how this may have protected against the detrimental effects of isolation. As people eventually return to their physical workplaces and colleges and other crowded places, it could be of interest to investigate a fear of negative evaluation in people after being isolated, working independently and tucked away from any judgement (whether it be appearance, performance or relevance etc) for such a substantial length of time.

Conclusions

To conclude, there is consistent evidence that social anxiety is associated with higher levels of loneliness and a strong fear of negative evaluation, and this study further validates previous literature and supports preceding discoveries. Experimental and longitudinal research designs should be applied more regularly in future studies, to distinctly calibrate the explicit components of social anxiety disorder and how SA symptoms its predictors can develop and progress over the entire lifespan. This would benefit policymakers and society members alike, in the expansion and in the progression of interventions and preventative services, which are vital to the reduction of the negative health outcomes associated with SAD such as depression and substance abuse (Stein et al, 2008). It could be said that employing this type of mixed methodology could be greatly beneficial to SA research as it would incite an organic, unpremeditated search for the natural occurring predictors of social anxiety. As opposed to the researcher selecting variables which may correlate with the DV, but which may not generate the strongest statistical ties. Henceforth, the broader implications of this study may encompass the sanctioning of new legislation, and the reformation of existing social anxiety health guidelines in accordance with the distinct relationship between loneliness, EA, and social anxiety in the Irish population. This is particularly relevant in the wake of the corona versus pandemic.

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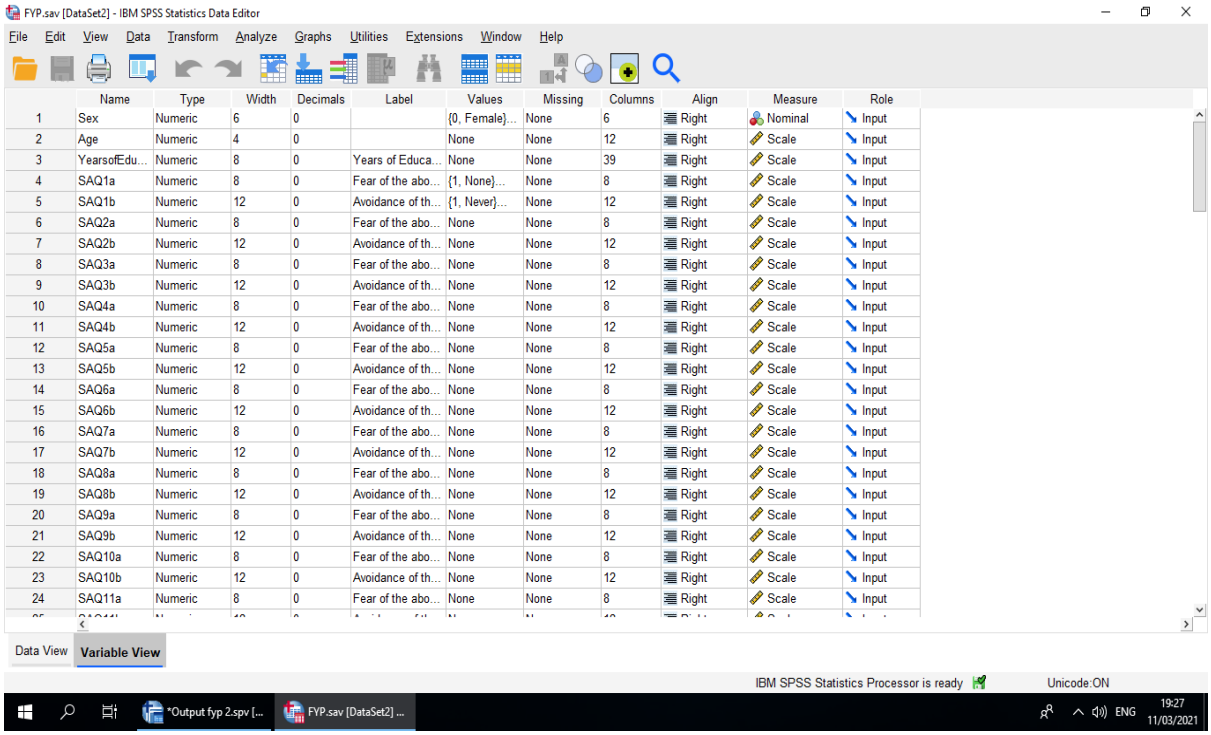
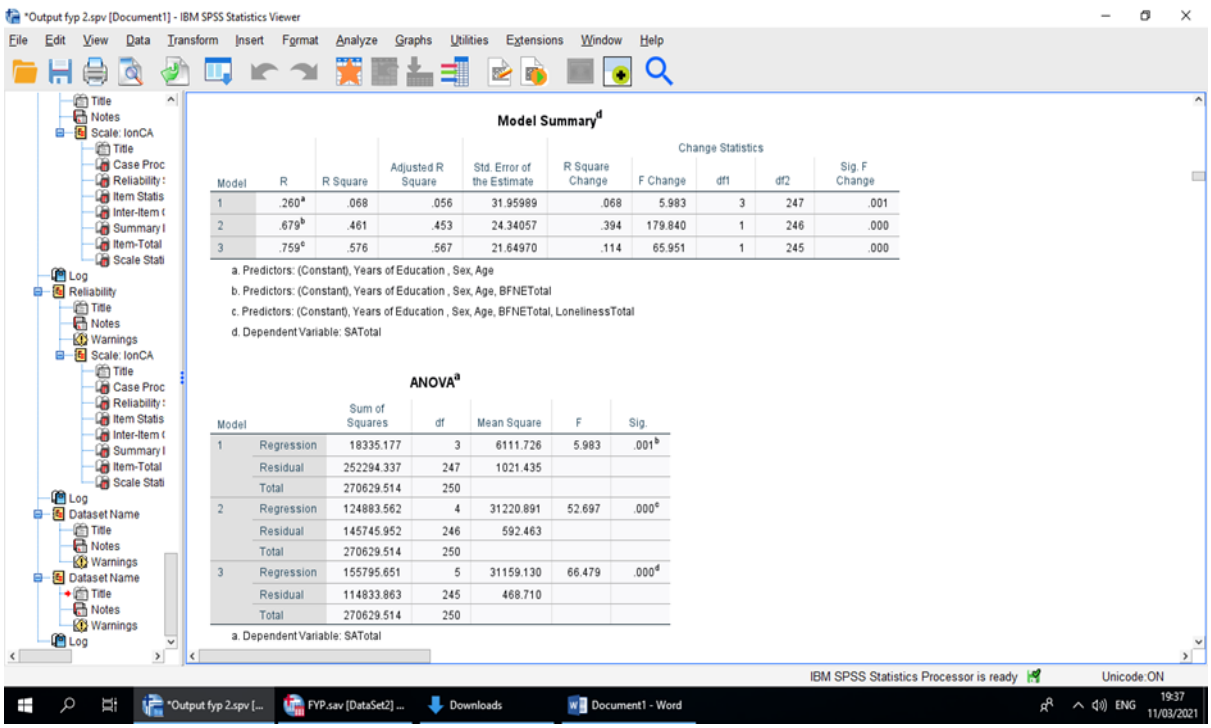
Appendices

Appendix A

Evidence of data and SPSS output





Appendix B

The Liebowitz Social Anxiety Scale

Participant Instructions: The LSAS (1987) is a 24-item scale which is divided into two subscales. Social interactions and performance situations which tend to be feared and/or avoided by people with social phobia are assessed. Fill out questionnaire with the most suitable answer based on your experiences of the past week.

1. Telephoning in public (Speaking on the telephone in a public place)

Fear of the above situation:

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation:

○ Never ○ Often

○ Occasionally ○ Usually

2. Participating in small groups (Having a discussion with a few others)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

3. Eating in public places (do you feel uncomfortable handing food in public?)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

4. Drinking with others in public places (Refers to any beverage including alcohol)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

5. Talking to people in authority (for example, a boss or a teacher)

Fear of the above situation

○None ○ Moderate

○Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

6. Acting, performing, or giving a talk in front of an audience

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

7. Going to a party (an average sized party, you have been invited and you do not know all the people there)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

8. Working while being observed (any type of work including schoolwork or housework)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

9. Writing while being observed (for example, signing a check in a bank)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Moderate
○ Usually

10. Calling someone you don't know very well

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

11. Talking with people you don't know very well

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

12. Meeting strangers (assume others are of average importance to you)

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

13. Urinating in a public bathroom (assume others are around as normally expected)

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

14. Entering a room when others are already seated (a small group where no one has to move seats for you)

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

15. Being the centre of attention (telling a story to a group)

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

16. Speaking up at a meeting (seated at a small meeting or standing in place in a large meeting)

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

17. Taking a written test

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

18. Expressing appropriate disagreement or disapproval to people you don't know very well

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

19. Looking at people you don't know very well in the eyes (appropriate eye contact)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

20. Looking at people you don't know very well in the eyes (appropriate eye contact)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

21. Trying to pick up someone (as a single person attempting to initiate a relationship with a stranger)

Fear of the above situation

○ None ○ Moderate

○ Mild ○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

22. Returning goods to a store where goods are normally excepted

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

23. Throwing an average sized party

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never
○ Occasionally
○ Often
○ Usually

24. Resisting a high-pressure salesperson

Fear of the above situation

○ None
○ Mild
○ Moderate
○ Severe

Avoidance of the above situation

○ Never ○ Often

○ Occasionally ○ Usually

Appendix C

The Brief Fear of Negative Evaluation Scale

Participants Instructions: The BFNE (Leary, 1983) is a 12-item assessment of evaluation anxiety. Please select a number which best represents how true these statements are in relation to your usual state. The numbers symbolise the following: 1 – Very uncharacteristic of me, 2 – somewhat uncharacteristic of me, 3 – neutral, 4 – somewhat characteristic of me, 5 – extremely characteristic of me.

1. I worry about what people will think of me even when I know it doesn't make any difference

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

2. I am unconcerned even if I know people are forming an unfavourable impression of me

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

3. I am frequently afraid of other people noticing my shortcomings

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

4. I rarely worry about what kind of impression I am making on someone

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

5. I am afraid that others will not approve of me

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

6. I am afraid that people will find fault with me

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

7. Other people's opinions of me do not bother me

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

8. When I am talking with someone, I worry about what they may be thinking about me

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

9. I am usually worried about what kind of impression I make

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

10. If I know someone is judging me, it has little effect on me

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

11. Sometimes, I think I am too concerned with what other people think of me

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

12. I often worry I will say or do the wrong things

Very uncharacteristic of me 1 2 3 4 5 Extremely characteristic of me

Appendix D

The UCLA Loneliness Scale Version 3

Participants Instructions: The UCLA LS-V3 is a 20-item measure of one's personal loneliness perceptions.

1. How often do you feel you are 'in tune' with the people around you?

○ Never ○ Sometimes

○ Rarely ○ Always

2. How often do you feel that you lack companionship?

○ Never ○ Sometimes

○ Rarely ○ Always

3. How often do you feel that there is no one you can turn to?

○ Never ○ Sometimes

○ Rarely ○ Always

4. How often do you feel alone?

○ Never ○ Sometimes

○ Rarely ○ Always

5. How often do you feel part of a group of friends?

○ Never ○ Sometimes

○ Rarely ○ Always

6. How often do you feel that you have a lot in common with the people around you?

○ Never ○ Sometimes

○ Rarely ○ Always

7. How often do you feel that you are no longer close to anyone?

○ Never
○ Rarely
○ Sometimes
○ Always

8. How often do you feel that your interests and ideas are not shared by those around you?

○ Never
○ Rarely
○ Sometimes
○ Always

9. How often do you feel outgoing and friendly?

○ Never
○ Rarely
○ Sometimes
○ Always

10. How often do you feel close to people?

○ Never
○ Rarely
○ Sometimes
○ Always

11. How often do you feel left out?

○ Never
○ Rarely
○ Sometimes
○ Always

12. How often do you feel that your relationship with others are not meaningful?

○ Never
○ Rarely
○ Sometimes
○ Always

13. How often do you feel that no one really knows you well?

○ Never ○ Sometimes

○ Rarely ○ Always

14. How often do you feel isolated from others?

○ Never ○ Sometimes

○ Rarely ○ Always

15. How often do you feel you can find companionship when you want it?

○ Never ○ Sometimes

○ Rarely ○ Always

16. How often do you feel there are people who really understand you?

○ Never ○ Sometimes

○ Rarely ○ Always

17. How often do you feel shy?

○ Never ○ Sometimes

○ Rarely ○ Always

18. How often do you feel that people are around you but not with you?

○ Never ○ Sometimes

○ Rarely ○ Always

19. How often do you feel that there are people you can talk to?

○ Never ○ Sometimes

○ Rarely ○ Always

20. How often do you feel that there are people you can turn to?

○ Never ○ Sometimes

○ Rarely ○ Always

Appendix E

Information and Consent Form

You are invited to participate in a research study that will form the basis for an undergraduate thesis entitled 'The relationship between social anxiety, evaluation anxiety and loneliness in an Irish context'. I am a final year undergraduate psychology student at the School of Business, National College of Ireland, Dublin. As part of our degree we must each carry out an independent research project. The overall aim of this study is to further develop social anxiety research by examining the relationship between social anxiety, evaluation anxiety and loneliness. Please read the following information before deciding whether to participate. This project has been approved by the NCI Psychology Research Ethics Committee and was not externally funded.

About the Study

In this study, you will be asked to complete a questionnaire comprised of three widely acknowledged measure of the key concepts. These measures are the 24-item Liebowitz Social Anxiety Scale (Liebowitz, 1987), the 11-item Fear of Negative Evaluation Scale (Leary, 1983) and the 20-item UCLA Loneliness Scale Version 3 (Russell, 1996). This questionnaire typically takes 10 minutes to complete. This process is done online once and in your own time. For the purpose of the study, I would like to collect data from adult participants of any background, although you must be of Irish nationality as this is central to the aims of the study. Additionally, you must be over the age of 18 years old to participate.

Participants Rights

You may decide to stop being a part of the research study at any time without explanation and without penalty. Participation is entirely voluntary. If you change your mind about taking part in the study, you can withdraw at any point during the survey. Although, it should be noted once the survey has been completed and submitted you lose your right to withdraw your data from the study because the data is anonymous. You must answer every question to complete this questionnaire because all questions are relevant to the results of the study.

Benefits and Risks

While there will be no direct benefit from participation, by taking part in this study you will gain insight into how a psychology research project is conducted and what it is like to be a

participant in such a study. If you are a psychology student, this information could be used to shape and inform how you choose to design and conduct your own final research. There may be possible psychological risks which may come from your involvement in this study such as distress due to the sensitive content matter. If you find that the content matter may cause any stress or embarrassment, please do not partake in the study. Participation in this study involves completion of three standardized tests as outlined above, which are routinely used as preliminary screens for clinical conditions involving psychopathology/cognitive impairment of which you may not be aware. Scores from these tests would not be sufficient basis for clinical decisions or diagnosis, contain substantial margins of error, and are not used for diagnostic purposes in this study. Though it is not possible to provide feedback of individual scores to participants, these scores might hint at health problems that some people would want to discuss with an appropriate health professional

Confidentiality

The data collected does not contain any personal information about you except the two demographic variables (gender and age) Name and address are not necessary to the research and therefore, participant data will be labelled using a random ID number. The data that is collected is the secure property of the researcher. This data will only be discussed in relation to the hypotheses in the results and discussion sections of the research paper. The results will be written up and presented as part of my final year undergraduate research. If the results are novel it may also be presented at academic conferences and/or written up for publication in peer reviewed academic journals.

For Further Information

Any Queries regarding this study can be sent to the following contact information: mmm
Chloe Cullen; Final Year BA Psychology Student
ncipschologythesis@gmail.com
Supervisors Name – Dr. David Mothersill,
Supervisors Email – David.Mothersill@ncirl.ie

I have read and understand the above statement

□ **Yes**

Informed Consent

By agreeing to participate in this study, I understand that:

- I have been informed as to the general nature of the study and agree voluntarily to participate
- There are no known expected discomforts or risks associated with participation.
- I must be over 18 years old and of Irish nationality to participate
- All data from the study will be treated confidentially. The data from all participants will be compiled, analysed, and submitted in a report to the Psychology Department in the School of Business. No participant's data will be identified by name at any stage of the data analysis or in the final report.
- I may withdraw from this study at any time, up until the final submission of my data.
- Any questions or concerns I have will be fully addressed by email.

- I am aware that participation in this study involves completion of anxiety and loneliness standardised tests which are routinely used as preliminary screens for clinical conditions/impairments of which I might not be aware.
- I understand that these assessments are not sufficient for diagnostic purposes, nor will they be used in this manner in this study. I also understand that the researchers cannot inform participants of individual test scores.

Please indicate that you are over 18 years old and willing to give informed consent to participate in this study

 Yes, I am of Irish nationality, 18+ and I give my consent to participate

Appendix E

Debriefing Form

Thank you very much for supporting this research study. The aim of this study is to further develop social anxiety research by identifying any statistically significant subcomponents. You completed the Revised UCLA Loneliness Scale (Russell, 1996), the Liebowitz Social Anxiety Scale (Liebowitz, 1987) and the Brief Fear of Negative Evaluation Scale (Leary, 1983). The reason for asking you to complete these tests is because this project is examining the idea that loneliness and feelings of social and evaluation anxiety share a statistically significant relationship of main and interaction effects. This study is also looking at gender differences and the predictors of social anxiety. There has been no research done on the interrelationship of all three factors and little research done using a basic community sample.

If you would like to know what I discover or If you require any assistance or have any questions about the research study, please feel free to email me on ncipsychologythesis@gmail.com. Additionally, you can contact my supervisor Dr. David Mothersill at David.Mothersill@ncirl.ie. If you are interested in this area, you can read more about topic on google scholar or visit the following websites: http://socialanxietyireland.com/ https://tilda.tcd.ie/publications/reports/pdf/Report_Loneliness.pdf

Help information

If you need help please talk to friends, family, a GP, therapist or one of the free confidential helpline services. For a full list of national mental health services see yourmentalhealth.ie. Samaritans on their free confidential 24/7 helpline on 116-123, by emailing jo@samaritans.ie Pieta House National Suicide Helpline 1800 247 247 or email mary@pieta.ie – (suicide prevention, self-harm, bereavement) or text HELP to 51444 (standard message rates apply) Aware 1800 80 48 48 (depression, anxiety)

Appendix D and E were written with the aid of Wood, Giles & Percy (2012).