



**Gender differences in the relationship between social media
usage; social comparison and social anxiety level**

Séan Maiben

Student ID: X18450736

Supervisor: Matthew Hudson

BA (Hons) Psychology

National College of Ireland

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Name: Séan

Maiben _____

Student Number:

__X18450736_____

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Psychology_____

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Abstract:

It has been speculated within prior research and proposed theories that both males and females differ greatly in relation to emotional expression, Social media and its potential negative effects have long been discussed and studied since its first days of creation, however a gap in current literature on the differences of the effects of social media across gender has been highlighted and thus, this current study sought to address the potential gender differences that SNS use may have in relation to gender, particularly in relation to both Social comparison and Social anxiety levels among participants, the hypotheses presented for the current study were firstly, that higher levels of SNS usage would be associated with both higher levels of Social anxiety and Social comparison and secondly, that female participants would display higher levels of Social anxiety and Social anxiety than male participants.

Participants were recruited utilising convenience sampling (N=165) and completed an online survey using the website google forms which included demographic variables such as gender, the Social Media Engagement Questionnaire, the Social Comparison Scale and the Liebowitz Social Anxiety Scale.

Results of the Pearson product-moment correlation analyses found a significant yet weak relationship between SNS use and Social anxiety, while no statistically significant relationship was found for SNS use and Social comparison, a moderation analyses was also run, which garnered results displaying no statistically significant relationship between gender and either social comparison or social anxiety.

The results of this study while being unable to provide support for the proposed hypotheses highlight the need for further and more extensive research into the effects of social media on gender in an Irish context.

Keywords: Social anxiety, Social comparison, Social media, SNS, gender.

Table of Contents

1. Declaration form.....	2
2. Acknowledgments.....	3
3. Abstract.....	4
4. Introduction.....	6
Literature Review.....	8
5. Method.....	19
6. Results.....	24
7. Discussion.....	29
8. Conclusion.....	34
9. References.....	35
10. Appendices.....	45

Introduction

Social media, or Social Networking sites (SNS) have been a foundation of the average persons' internet use time since their original projection into the world during the late 90's (Our World in data, 2019) this continuous surge in popularity has caused as of last year, a total estimation of 3.6 billion active members of social networking sites which is projected to skyrocket further to an estimated number of 4.4 billion users by the year 2025 (Clement, 2020) with studies recording that the average social media usage time per person daily being on average 144 minutes (DigitalMarketing.org, 2020).

Social media is not exempt to older age groups however according to studies conducted by the PEW research centre, as of February 90% of adults between 18-29 utilise at least one SNS while the numbers decreased as the age groups got older with only 40% of the 60+ age group utilising at least one SNS (PEW research centre, 2019), these numbers indicate the prevalence of Social Networking sites in relation to young adults lives, from a neurological perspective social media usage affects the brain in many different ways, depending on how the SNS is utilised.

Positive attention on social media, such as acquiring likes on sites such as Facebook or Instagram lead to "activation in brain circuitry implicated in reward, including the Striatum and ventral Tegmental area, regions also implicated in the experience of receiving likes from others" (Sherman L, et al. 2018), a similar study that employed the use of MRI on adolescents scrolling through Instagram found that viewing photos with many likes compared to few was associated with higher levels of activity in neural regions implicated with reward processing (Sherman L, et al. 2016).

Apart from the prevalent rewards system activation of the brain in relation to positive SNS engagement, social media engagement can impact the brains emotional processing, in a

study which examined adolescents brains it was found that parts of the brain that deal with emotional and sensory processing had high reactivity when participants in the study felt excluded (Crone E & Konijin E, 2018), the negative aspects and impacts these aspects can have on an individual level have been a recent phenomena in research areas and as thus much of the research into social media and its negatives are fairly recent but plentiful, the SNS known as Facebook has been seen to increase procrastinatory levels among college students leading to predicted higher levels of anxiety over time (Nurit S, et al. 2020)

The internet seemingly provides a safe space where socially anxious individuals can avoid face-to-face interactions Prizant-Passal, Sechner and Aderka (2016) after conducting a quantitative Meta-analysis found a positive correlation between levels of social-anxiety and feelings of comfort online, showing the avenue of internet communication through utilisation of SNS as an attractive avenue for those with higher levels of social anxiety, studies have also shown high levels of SNS usage to have a direct impact on an individuals' anxiety levels such as Boers E, Afzali M & Conrod P (2019) whom observed 3'000 seventh to tenth graders in the greater Montreal area within Canada, the study measured the amount of time participants spent within SNS, Television and computers. The results of the study found that not all screen time impacted levels of anxiety levels within participants, with total amount of time spent on social media being the strongest predictor of more severe anxiety levels, many have looked for explanations for this increase in anxiety levels associated with SNS use with some citing theories such as Karl Festingers 'Social Comparison' theory.

Amongst the bodies of literature pertaining to the negative impacts of SNS use there exists only a small body looking at the negative impacts of SNS usage in regards to gender difference, though differences in emotional expression in relation to negative emotions such as anxiety have been identified in studies for male participants when compared to female participants (Deng Y, et al. 2016) thus, this study wishes to further expand the avenues of

Gender differences pertaining to
Social media; Social anxiety and Social comparison

current literature through exploration on the possible relationship between gender and SNS usage and its affect on social anxiety and social comparison levels.

Literature Review:

Social Anxiety

Social Anxiety is often a very loosely used term in modern society, with few knowing the true meaning behind it, anxiety itself is defined as a “cognitive and affective response characterized by apprehension about an impending potentially negative outcome”(Lesse, 1970),while the National Institute for mental health defines Social anxiety as “an intense persistent fear of being watched and judged by others”, Social anxiety is highly prevalent in today’s world specifically among young adults, with it being shown in studies spanning over several countries that every 1 in 36 persons (between the ages of 16-29) meeting the threshold for having Social anxiety disorder (Jefferies P & Ungar M. 2020).

The toll of Social anxiety’s impact on an individuals life is grave, with studies such as Hajure M & Abdu Z(2020), looking at over 500 undergraduate student participants finding that students who had Social Phobia reported having lower levels in all areas of quality of life, including physical health, psychological health and social relationships when compared to students without Social phobia, studies have also looked at how Social Anxiety can affect students in a college setting (Russell G & Topham P 2012) with 787 students taken part in the study the results found that in the students with Social Anxiety, learning activities had been greatly impacted due to an anticipatory anxiety due to assumptions about failure or disabling impacts.

The main aspect of Social anxiety is social interaction, where an individual is focused on the attention of others which presents the opportunity for interpersonal evaluation, its this internal expectation of interpersonal evaluation which differentiates Social Anxiety from the other forms of anxiety and the inability to cope with the evaluative nature seemingly intrinsic in social interaction is what causes feelings of social anxiety, Sullivan's (1953) description of the nature of anxiety suggests that source of anxiety is derived from a child's encounters with care givers in which displays of disapproval are shown to the child, anxiety can be created by perceived failure or a failure to directly predict or control ones environment, with social anxiety being the most direct parallel to Sullivan's explanation.

Schlenker B.R & Leary M.R (1982) proposed that a necessary condition for Social anxiety is that people be motivated to make a particular impression on their 'audience', with people who do not have this specific goal in mind, unconcerned about potential social evaluations will be unaffected by feelings of social anxiousness, this goal of making a particular impression on others within a social encounter has been described as a "self-presentation" (Jones & Pittman, 1982), people lay claim to self-images that compromise their identity, mostly it is usually in peoples best interest to display particular images to groups of people (Jones & Wortman, 1973) with some of these projected images ascertaining positive reveration from groups while other images may collect negative reactions, essentially ones life revolves around a control of these self-images in order to maintain a particular cost/gain in ones life, which especially prevalent in today's social media culture.

The concept of projecting a particular image of oneself likely to be accepted of others is extremely important in the midst of the 'cancel culture' of Social media network, with one wrong move or mis-phrased sentence leading to detrimental social impacts with some anecdotal cases going as far as people's education and employment being affected, with these possible risks facing people throughout their daily use of social media. Despite these possible

Gender differences pertaining to
Social media; Social anxiety and Social comparison

risks studies have shown that adolescents utilising SNS revisit several times a day (Lenhart et al. 2015), SNS open up anybody to potential verbal abuse whether through intentional bullying or otherwise. Studies have shown that frequent updates from friends and the possible encounters of negative comments on the SNS, Facebook contribute towards the culmination of negative emotions (Labrague, 2014), similarly a study conducted by Core Data Science Team at Facebook inc, witnessed that when positive posts were gradually reduced from appearance on a users' newsfeed the users' in turn produced less and less positive expressions on their timeline and likewise when negative expressions were reduced, people gradually expressed less negativity on their timeline (Kramer, Guillory & Hancock, 2014).

The possible Physiological markers for negative emotions such as stress found in SNS users were investigated in a study looking at young Facebook users, observing that young users of Facebook with high amounts of friends possessed elevated cortisol levels when compared to young users with less friends' (Morin-Major et al., 2016) , literature has shown a trend where it seems possible that individuals emotional states are impacted directly from SNS's, as discussed earlier it is hypothesised that adolescents with Social Anxiety disorder may use SNS's such as Facebook as an ulterior way of communication allowing them to avoid face-to-face interactions (Indian & Grieve, 2014) however in a recent study Shaw et al. (2015), had discovered that individuals with SAD had an increased likelihood of utilising Facebook passively which was mediated by brooding, which is a widely known risk factor for SAD, however the exact details for the affects SNS has on individuals is scarce.

Studies have utilised a qualitative approach in order to get a more in-depth look at how SNS use affects individuals with an anxiety disorder diagnosis, the results of one study conducted by Calancie O., et al. (2017) identifying key themes which emerged among 8 participants which took part, such as 'seeking approval' and 'fearing judgement' which in this study correlated to the receiving of likes, with participants reportedly being aware of

Gender differences pertaining to
Social media; Social anxiety and Social comparison

their number of likes and comparing these accumulated likes to that of their peers' and basing judgements of themselves based on this information which correlate with the previous mentioning of the concept of self-presentation, along with other themes such as 'escalating interpersonal issues' and 'negotiating self and social identity.

While current literature has examined the affect of SNS use on individuals with SAD much of the studies prevalent today on the topic don't delve into the potential impact of the gender of participants, such studies in dealing with the nature of emotional states and the impacts on said emotional states could benefit greatly from identifying and potentially controlling of or the differences in which males and females express themselves emotionally, stereotypes presented particularly in western culture weave the narrative that women are more prone to negative emotional expression while men are often portrayed as the strong and silent type (Gard MG & Kring AM, 2007).

Electrophysiological studies have garnered results highlighting biological markers for difference in emotional expression such as that women emit larger galvanic skin responses along with elevated heart rates as compared to male participants when being shown movies which induce feelings of sadness and also feelings of disgust (Fernandez, C. et al., 2012) studies like this indicate a certain degree of credibility to the renowned stereotype of women being more prone to negative emotions, however in contrary to studies such as this, literature has emerged showing that despite display of negative emotion, men display higher levels of blood pressure and cortisol levels in relation to emotionally arousing stressors (Chaplin et al. 2008).

The nature of the resulting conclusions from studies investigating emotional expressiveness in gender have led to a multiplicity of theories surrounding emotional expression being formed, with one of the most profound being the theory first proposed by

Gender differences pertaining to
Social media; Social anxiety and Social comparison

Buck (1977) that states, while men may be equally if not aroused even higher than females in relation to emotional stimulus will, instead of taking a route of emotional expression opt to 'lock in' said emotions, Buck tested this theory in an experiment composed of 2 classes tallying up to 32 pre-school children; ages 4-6 in total, sat in front of a screen projector which would show either a neutral, negative or positive image; facial expressions of the children were observed by the children's classes respective teachers in order to accurately measure the expressions from someone familiar with the children, throughout this experiment and results found showed that the male participants within the study across the board showed lower levels of emotional expression as the age progressed (4 through 6) while the visual expression on female participants continued to be evoked clearly, from these results Buck theorised that this suppression of emotional expression increases to higher extents with the child's age, however the results of this study have been debated due to its simplistic method of garnering emotional reaction via visual cues alone, and while it could be debated that the teachers presence hindered the validity of results due to their lack of formal training.

Despite these criticisms it is still suggested that Buck's theory could be the explanation behind the cause of emotional issues that haven't yet been fully fleshed out through research, such as why women across the board display higher rates of clinical depression and some particular anxiety disorders beginning from younger adolescent years (Chaplin & Cole, 2005) while men seem to display higher levels of antisocial behaviours which is in itself associated with low levels of emotional reactivity as well as being associated with experiencing difficulty conveying emotions to do with sadness, romance and anxiety (Gawda B, 2013) as well as substance abuse such as alcohol more so than women (Nolen-Hoeksema & Hilt, 2006).

The debate of difference in emotional processing and expression between gender has, over the years adopted a similar stance to the Nature Vs. Nurture debate originally posed by Francis Galton (1876) with some theorists speculating about the potential strictly biological impact on emotional expression as opposed to an environmental view point, believing that the lower levels of language and inhibitory control that boys display as opposed to girls at a young age potentially explaining why men would develop a difficulty in expression of certain emotions (Brody, 1999).

The Bio-psycho-social model of gender in emotional expression holds the belief that an explanation behind the difference in emotional expression among genders lies in an entanglement between both environmental, social and biological influences, as mentioned earlier, in western culture; particularly women, are expected to display greater levels of most emotions, including positive emotions such as happiness as well as negative internalising emotions such as sadness, anxiety, shame and guilt (Zahn-Waxler, Cole & Barret, 1991) while men in western culture are commonly expected to repress such 'fragile' emotions while only being allowed to express more externalizing emotions such as contempt, disgust and anger, expression of such externalizing emotions seem consistent with the societal role of males to be the dominant and more assertive gender which is even further in line with the age old role of men to play the role of family provider and protector from danger (Eagly & Stefan, 1984).

In co-ordinance with Brody (1999)'s original speculation that boys lower levels of vocabulary and inhibitory control could stunt emotional expressive growth, the Bio-Psycho-Social posits that this lack of vocabulary could also have an affect on the parents of said children, a young girls ability to better communicate her feelings as well as possessing higher levels of inhibitory control leads to their parents engaging with them emotionally more so than the more emotionally challenged sons, which in turn generates a positive connection for

emotional expression for daughters while parents respond to their sons in ways that dampen their levels of emotional expressiveness, motivating boys to limit their emotions in order to cope with their higher arousal levels.

this increased level of emotional expression and engagement with the daughters of parents as opposed to the sons has been witnessed in studies prior, in particular with happiness and sadness related words (Adams, Kuebli, Boyle & Fivush, 1995).

While the bulk of literature discussed directly pertains to the younger category of individuals there is a wealthy quantity of studies pertaining to the examination of potential emotional differences among gender in adult participants, one such study conducted by Deng Y et al. (2016) examined the differences of emotional experience and expressivity among gender in 18 participants ranging from 20-22 year of age, heart rates of participants were measured while being shown 16 video clips inducing 8 types of emotions including anger, sadness and disgust with the results of the study indicating gender differences in emotional experience, when watching clips inducing emotions of anger or amusement, men's HR declined further than women's, indicating higher action preparation and sustained attention where as women self-reported higher levels of arousal, the same was seen in relation to videos inducing horror and disgust as well as sadness, even without any noticeable difference in HR between genders, women self-reported higher arousal and stronger avoidance motivation than men, similarly to this study, another study conducted by McRae K et al. (2008) through utilisation of functional magnetic resonance imaging (fMRI) measured 25 participants, both male and female emotional responses between the ages of 18-22 in response to emotionally evoking stimulus in the form of pictures after being told to down-regulate their emotional responses. Throughout the study gender differences emerged showing similar data to previous studies discussed with men showing less activation of the Amygdala, associated with emotional responding as well as lesser engagement in prefrontal regions of the brain which are associated

Gender differences pertaining to
Social media; Social anxiety and Social comparison

with reappraisal among male participants, the study concluded that the emotional differences exhibited may be due to men having higher efficiency at reappraisal than females.

In contradiction, to study results previously discussed, some studies have also found the opposite affects in relation to gender, such as Labouvie V. G et al. (2015), mimicing previous studies, measured heart rate while 113 participants were emotionally stimulated; of which 61 were men and 52 were women, however the results of this study went against prior literature, finding no gender differences in subjective responses to emotional responses, only finding emotional response differences in relation to the age.

Further feeding off these contradictory findings, past studies pertaining to emotional well-being of gender have garnered results indicating paradoxical emotional states pertaining to women, in a 1960 American conducted survey, women simultaneously reported higher levels of emotional difficulties as well as reporting the same level of overall happiness as men (Gurin, Veroff & Feld, 1960) while similarly in a European sample of women and men both asked to report their overall levels of happiness, women reported overall higher levels of happiness than men (Haavio-Mannila, 1971), there is plentiful amount of opposing data in relation to the emotional differences between women and men however what can be gathered at the current moment is that there is to some degree an impact of gender on both the biological processing as well as the handling of emotional expression in relation to a societal context.

Social Comparison

SNS websites such as Instagram, Facebook and Snapchat provide ample opportunity for Social Comparison, Social comparison was a concept originally coined by psychologist Leon Festinger in 1954, the Social Comparison theory postulates that for people to evaluate their abilities and outcomes they must compare themselves to others (Festinger, 1954) it's been long

speculated that humans have an innate need to compare themselves to others around them in order to fulfil needs such as affiliation (Schachter, 1959) or for inspiration (Lockwood & Kunda, 1997) however these comparisons can yield a negative impact on one's mental state, central to the social comparison process is the subcategory of comparison chosen by an individual, such as the category of Upward comparison which relates to the comparison of an individual with superior others in relation to positive characteristics as well as downward comparison which relates to social comparison to an inferior other (Wills, 1981), upward social comparison often causes individuals to experience strong feelings of inadequacy (Marsh & Parker, 1984), while oppositely downward comparison often evokes feelings of self-enhancement as another individual's misery makes one's situation look more promising (Brickman & Bulman, 1977). In the past these comparisons took place strictly in a face-to-face context however with the continuing rise of SNS, these comparisons can occur at any point of the day, due to the ability of individuals to meticulously positively present themselves, being able to selectively allow content onto their profiles and choose what photos to upload it makes a critical and accurate judgement of a person's lifestyle or personality almost impossible based off of SNS alone, while face-to-face interactions wouldn't allow for such flexibility of presentation (Ellison, Heino & Gibbs, 2006) it is speculated that the majority of comparison occurring due to SNS is this detrimental upward comparison, which would commonly be done with a relativistic target to the individual themselves however with the rise of SNS a fertile breeding ground has been created in which a multiplicity of relevant comparison targets to an individual are consistently present at every point of the day.

In relation to this theory of upward comparison to others on social media Chou & Edge (2012) found that frequent users of Facebook hold the belief that other users possess higher levels of quality of life and have higher levels of success than themselves, this assumption was highly prevalent among users the individuals did not know personally, many scholars have

Gender differences pertaining to
Social media; Social anxiety and Social comparison

pointed toward social comparison being the largest underlying detrimental impact of SNS's (Krasnova, Wenninger, Widjaja & Buxmann, 2013), the impact of social comparison has also been seen in children as young as 7-13 years of age, where under a timed challenge in a social setting children reported feeling worse about their individual score if the person near them had won the challenge and conversely children reported feeling better about their victory if the person near them had lost (Steinbeis & Singer, 2013) A potential predictor for social comparison on SNS has been identified as higher levels of depressive symptoms as well as an individual possessing lower self-esteem levels (Appel, Crusius & Gerlach, 2015) These emotional states would theoretically make individuals more susceptible to the fabrication of a negative self-image considering nothing but positive outcomes and lifestyles of other individuals will be prevalent on their SNS.

Social comparisons and gender

The impact of gender on the affects of social comparison have been long studied however studies looking into gender differences for social comparison pertaining to SNS usage is scarce with the majority of current literature pertaining to social comparison in a real-world environment, a study conducted into social comparison within the confines of an academic environment among college students aged between 18-45 years old found that female students had a much higher inclination to utilise upward social comparison as compared to male students, as well it was also noted that students who reported overall lower levels of social comparison were stated to have higher confidence in their academic capabilities (Pulford D. B, Woodward B & Taylor E, 2018). Results such as this support the theorisation of there being a gendered difference in the way people will either identify themselves as individuals or identify as embedded and connected to a multiplicity of relationships (Cross & Madson, 1977), research has shown that men when compared to women possess a higher likelihood in believing that the skills and characteristics they possess are unique to them (Goethals, Messick & Allison, 1991;

Gender differences pertaining to
Social media; Social anxiety and Social comparison

Furnham A & Dowsett T, 1993) contrary to males, females have a more interdependent outlook, where-in they view themselves less individualistically and more so embedded in relationships with others as well as in general women are more likely to be empathetic towards others and possess higher levels of responsivity to feedback from others (Dunn, Bretherthorn & Munn, 1987), the literature for social comparison on gender differences in relation to SNS is scarce but has begun to attain higher levels of attention, with new literature showing social comparison has also been seen to be utilised to a higher level for women rather than men on SNS such as Facebook (Bergagna & Tartaglia, 2018).

In summary, research has shown that there is a numerous among of negative correlations for SNS usage with evidence showing a strong correlation between SNS usage and social anxiety levels as well as levels of social comparison with SNS usage, with empirical evidence suggesting that these relationships between SNS usage and social anxiety as well as social comparison are impacted to an extent by gender differences.

Research in the impacts of SNS is relatively new and as such there is still a plethora of research to be examined that has yet to be fully fleshed out in current literature, this particular study title was chosen to address the gap in literature pertaining to gender differences of both Social comparison and Social anxiety examined simultaneously in relation to SNS usage, highlighting the difference of results in relation to gender, It is hypothesised that higher levels of SNS usage will be associated with higher levels with Social Anxiety as well as Social comparison, furthermore it is hypothesised that gender will play a role on the levels of both Social anxiety and Social comparison displayed in the results, with female participants displaying higher levels of both SA and SC when compared to male participants.

Methods

Participants

The target population for this study was any individual between the ages of 18-29 whom had at least some form of social media presence at time of the study (N=165) participants were recruited utilising convenience sampling for the online survey as participants who came across the questionnaire self-selected themselves to take part, within the current study 50 participants identified themselves as male (30.3%) while 115 participants identified themselves as female (70.1%).

Design

The current study is a Quantitative within-subjects correlational study as the purpose of the study was to investigate the influence of Social media usage on levels of social comparison and social anxiety, no intervention for the study was necessary as no changes in behaviour were observed, the independent variable(s) for this study (IV) included Social Media use and gender while the dependent variables (DV) included social anxiety and social comparison.

The method of testing was utilised through an online survey which participants could access of their own choosing through a link provided via online platforms through which participants had the option to fill out the survey to their leisure in a comfortable environment of their choosing during a time span they felt appropriate.

Measures

The self-report questionnaire utilised for the current study contained 4 separate questionnaires and this was constructed utilising the online survey builder tool known as 'Google Forms', the questionnaire was then lobbied out utilising Social Media platforms such as Facebook and Instagram. Beginning the study upon entrance of the survey participants

Gender differences pertaining to
Social media; Social anxiety and Social comparison

were met with a participation information sheet (see appendix 1) which informed participants of all relevant information pertaining to the study at hand as well as its purpose. Following this information sheet participants were then met with a consent form (see appendix 1A) outlining any potential risks as well as confirming participants understood the information sheet prior. The four separate sections of this study consisted of a demographics questionnaire (see appendix 2), a Social Media engagement questionnaire (see appendix 3), a social comparison questionnaire (see appendix 4), and a Social Anxiety scale (see appendix 5).

Section 1: Demographics

This section composed of two separate questions, confirming the participant is within the 18-29 age bracket as well as confirming their gender.

Section 2: Social Media Engagement

The second section of the questionnaire composed of questions extracted from Przybylski, Murayama Dehann & Gladwell's 2013 SMEQ questionnaire to discover individuals levels of engagement with Social Media throughout a given week.

This section was comprised of 5 questions to gauge participants level of Social Media use within the past 7 days, rated on a 7 point likert-scale with responses ranging from (0)= 0 days to (7)= 7 days, with participants reacting to questions such as 'In the past 7 days how often have you used social media 15 minutes prior to sleeping?' and 'How often do you use social media during dinner?' using this 7 point scale to indicate how often during the past 7 days they have taken part. Individuals scores can be calculated by summing up responses to all 5 questions. Prior studies utilising this questionnaire have shown its validity (Fuster, Chammarro & Oberst, 2017) with a Cronbach's alpha of .85 and in this current study with Cronbach alpha of .78

Section 3: Social Comparison

The third section of the questionnaire composed of questions extracted from Allan & Gilbert's (1995) Social comparison scale which measures a persons' self-perceptions in relation to others, The section was comprised of 11 bi-polar constructs in which participants were asked to rate themselves in relation to others in relation to questions such as 'How do you feel in relation to others?' with a numerical scale of 0-10 being presented, with the word 'inferior' presented at 0 indicating a selection of a number closer to 0 indicated the participant felt inferior to others and an opposite word 'superior' being presented at the number 10 to indicate selection of a number close to this suggested participants felt superior when compared to others. this questionnaire is designed in mind to be able to quantify the level of which a participant views themselves or 'stacks' themselves against others in society, in order to calculate participants' score, adding together each score from questions is required, with lower scores indicating feelings of inferiority and higher scores indicating feelings of superiority compared to others.

The scale has shown good reliability with Cronbach alphas of .88 and .96 in clinical populations along with .91 and .90 in student populations (Allan and Gilbert, 1997), the current study held a Cronbach alpha of .86 ($\alpha = .86$)

Section 4: Social Anxiety

The fourth section of the questionnaire composed of questions extracted from Liebowitz's Social anxiety scale (1987) which is a self-report that measures distress of social phobia across a variety of situations, statements in the current study such as 'using your phone in a public setting' are provided through which participants then, utilising a likert scale ranging from 0-3 rate the level of fear such a situation would induce with (0) = no fear and (3) = large amount of fear and then rating the same situation in relation to the level of avoidance they

Gender differences pertaining to
Social media; Social anxiety and Social comparison

would have in relation to the situation provided, on a 0-3 likert scale with (0)= no avoidance and (3)= high level of avoidance.

In order to obtain participants results you take the overall score of both likert scales of each subset and add them together, studies have shown validity for use of Liebowitz's Social anxiety as a self-report measure for social anxiety (Fresco D.M, et al, 2001), the Cronbach alpha for the current study attained was .958 ($\alpha = .958$)

Procedure

An online questionnaire was formulated utilising the online survey builder 'Google forms', which comprised of both an Information sheet and consent sheet followed by the four sections of the survey (see appendix 1 through 6), data collection for the study begun once after being both reviewed for mistakes and approved by the researchers' supervisor.

The link of the questionnaire was shared via social media sites Instagram and Facebook, upon being clicked the link would direct participants to the first page of the survey document, being the participant information sheet which included all relevant information pertaining to the current study, following this was the consent form which would not allow the participant to proceed further if consent was not given.

Next participants were presented with demographic questions, asking to confirm their age lying between 18-29 also to confirm their gender. The participants then completed all 3 sections of the survey with participants being unable to proceed through the questionnaire if any questions had been left unanswered.

Participants had been instructed that they may opt out at any point throughout the questionnaire without penalty at the beginning of the study within the information sheet, but

Gender differences pertaining to
Social media; Social anxiety and Social comparison

once the survey had been submitted, it could not be retrieved again, due to the nature of this participants were further reminded of this prior within a de-briefing form prior to being able to submit their survey, the answers were automatically saved to the users google forms profile which required a password to be accessed.

The duration of completion of the survey took approximately 10 minutes taking into account reading of the information sheet, consent form and de-briefing form with boxes stating 'agree' or 'disagree' being utilised rather than signatures to obtain consent to maintain anonymity among participants taking part.

Helplines and the researchers name and email along with the associated project supervisors email were added at the end of the survey within the de-briefing form for the situation in which any participants had urgent questions or queries for the researcher/supervisor or in the situation any participants required help after the questions asked within the survey.

Once data collection was finished, the researcher moved all the data from the survey results to an excel spreadsheet where then was processed onto the statistical programme known as SPSS.

Results

Descriptive statistics

Table 1: Descriptive statistics for all categorical variables

*Frequencies for the current sample of participants on the demographic variable of gender
(N=165)*

Variable	Frequency	Valid percentage
Gender		
Male	50	29.9
Female	115	68.9

Descriptive statistics for all continuous variables

The current data is taken from a sample of 165 participants (n=165). This sample consisted of 29.9% male participants and 68.9% female participants, there are 5 continuous variables, including, SNS usage, Social comparison scale, Social anxiety score as well as Social Anxiety sub-scales.

Table 2: Descriptive statistics for all continuous variables (n=165)

Descriptive statistics and reliability for the SMEQ scale, Social Comparison Scale, Liebowitz Social anxiety scale and social anxiety sub-scales.

	Mean [95% CI]	Median	SD	Range	Cronbach Alpha
SNS use	23.05[21.85,24.26]	23	7.91	2-35	.78

Gender differences pertaining to
Social media; Social anxiety and Social comparison

Social	56.91[54.39,59.44]	60	16.43	0-89	.86
Comparison					
Social	56.96[52.56,61.36]	55	28.61	5-137	.96
Anxiety					
Social	22.82[20.75,24.90]	22	13.51	0-66	.93
Situation					
Performance	34.05[31.54,36.56]	34	16.32	4-74	.92
Anxiety					

Inferential statistics

Correlations

The relationship between Social media use and Social Anxiety as well as Social Media use and Social comparison was investigated using a Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violations of the assumptions of normality, linearity and homoscedasticity. There was a small positive relationship found between Social media use and Social anxiety ($r=.19$ [95%CI=.045,.34], $n=165$, $p=.013$). This

Gender differences pertaining to
Social media; Social anxiety and Social comparison

indicates that the two variables shared approximately 3.7% of the variance in common.

Results indicate that higher levels of Social media use are associated with higher levels of Social anxiety.

For the relationship between Social media use and Social comparison levels there was a weak negative correlation found ($r=-.02$ [95%CI=-.16,.13], $n=165$, $p=.818$). This indicates that the two variables share 0.03% of the variance in common. Results indicate that levels of Social media use have no significant impact on Social comparison levels within participants.

See Table 3 for display of all correlations.

Table 3

Pearson product-moment correlations between study variables

Variable	1.	2.	3.
1.Social Media use	-		
2.Social Anxiety	.193*	-	
3.Social Comparison	-.018	-.611	-

*Note: * $p<.05$, *** $p<.001$*

Gender differences in relation to scores on Questionnaires

Independent samples T-test

An independent samples T-test was conducted to compare levels of Social Anxiety between Males and Females. There was no significant difference in scores, with males ($M=47.6$,

$SD=27.4$) scoring lower than females ($M=60.9$, $SD=28.3$), $t(168)=2.80$, $p=.006$, two-tailed.

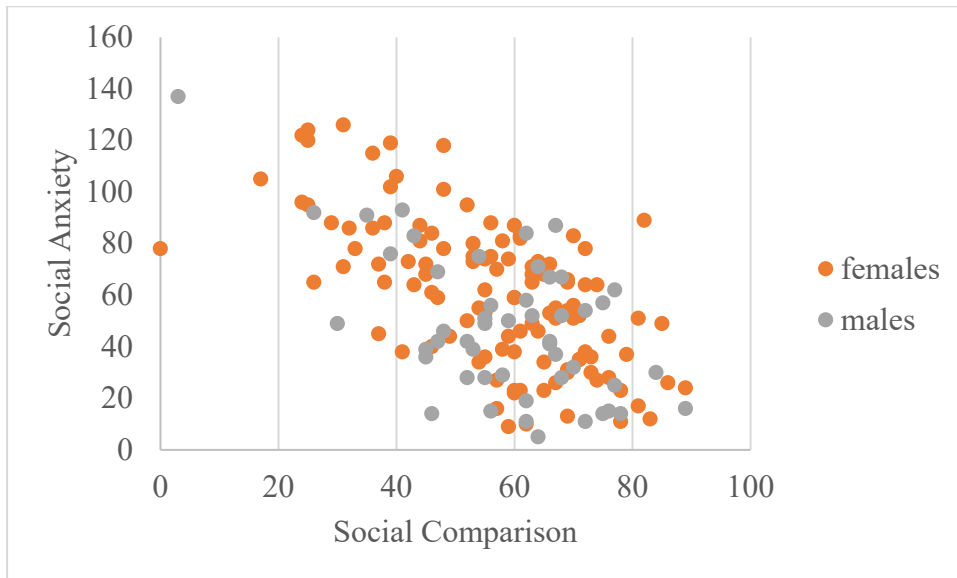
The magnitude of difference in the means (mean difference=13.3, 95% CI: 3.93 to 22.77) was small (Cohen's $d=.47$).

Gender differences pertaining to
Social media; Social anxiety and Social comparison

An independent samples T-test was conducted to compare levels of Social comparison between males and females. There was no significant difference in scores, with males ($M=58.4$, $SD=15.87$) scoring lower than females ($M=56.3$, $SD=16.73$), $t(163)=-.76$, $p=.45$, two-tailed. The magnitude of difference in the means (mean difference= -2.13 , 95% CI: -7.63 to 3.37) was small (Cohen's $d=-.13$).

Moderation Analysis

Figure 1: Scatterplot displaying the moderating effect of gender in relation to Social Comparison and Social anxiety levels.



To test the hypothesis that gender plays a moderating role in the relationship between Social Comparison levels and Social Anxiety levels among participants a moderation analysis was conducted, the role of gender as a moderator between Social Comparison and Social Anxiety was found to be non-significant $R = .41, f(3,161) = 36.56, p < .001, b = .06, t(161) = .27, p = .79$.

Examination of the interaction plot displayed very minute differences in relation to Social Comparison and Social Anxiety levels among participants, these results suggest that gender does not play a significant moderation role in the relationship between Social Anxiety and Social Comparison.

Discussion

The current studies primary goal was to ascertain an insight into the relationship gender can play in regards to Social Comparison and Social anxiety in relation to social media usage, with the sample being taken from active SNS users between the age of 18-29. The inspection was conducted through the analysis of two hypothesis, with H2 being the primary focus of this current study.

H1: Higher levels of SNS usage will be associated with higher levels of social anxiety as well as social comparison.

H2: Female participants will display higher levels of social anxiety and social comparison in relation to male participants.

For hypothesis 1, the correlation between SNS use and Social anxiety levels and Social comparison was investigated through utilisation of a Pearson product-moment correlation, the results for the correlation between SNS use and Social anxiety presented a significant yet weak relationship, this finding is seemingly corroborated with other studies results indicating SNS usage has a negative impact on levels of Social anxiety (Shaw et al. 2015; Lee Won, Herzog & Park, 2015; Antheunis, Schouten & Kraemer, 2016), however other literature (Grobe Deters, Mehl & Eid, 2016) such as studies into SNS like Facebook have yielded results indicating little to no impact of SNS use on Social anxiety levels, this could somewhat explain the lack of a strong result of a relationship between SNS use and Social media as seen in previous literature, due to the mixed results present in literature an important question comes to mind that may provide a definitive answer, does SNS use

Gender differences pertaining to
Social media; Social anxiety and Social comparison

contribute to Social anxiety levels or do already socially anxious individuals tend to use social media more?, further clarity to this question may lie in some previously hypothesised reasons for why people utilise SNS's, known as the 'compensation hypothesis' (Fernandez, Levinson & Rodebaugh, 2012) states that people use SNS in order to compensate for their deficiency in social skills or discomfort in face-to-face situations.

The supportive findings for this Social Compensation hypothesis however have been mixed within current literature (Zywica & Danowski, 2008) with more recent studies within literature finding more supportive findings for an opposing hypothesis for SNS use known as the 'Social Enhancement' hypothesis (Kraut et al, 2002) with this hypothesis stating that Internet use benefits extroverts more so than it would introverts, with extroverted individuals whom already possess powerful and plentiful societal bonds outside of SNS, utilising the internet to further strengthen these bonds, thus leading to them communicating more implying the opposite is also true for introverts, whom communicate less so with others in real life and thus reflect this via their SNS usage. Studies examining Facebook usage among the undergraduate and postgraduate population within India of which 94 million Facebook users are present (Gadekar & Ang, 2020) yielded results indicating that Facebook users with lower levels of communication apprehension spent more time on Facebook as well as possessing more friends than users with higher levels of communication apprehension, siding more so with the Social enhancement hypothesis.

This Social enhancement theory could potentially explain the reason for the significant yet weak relationship between SNS usage and SA found within the results of the current study.

The results of the Pearson product-moment correlation analysis for the relationship between SNS use and levels of Social comparison indicated a non-significant, weak negative

Gender differences pertaining to
Social media; Social anxiety and Social comparison

relationship between the two variables, in order to understand the difference in results this study has garnered in contradiction to other studies its important to analyse other potential influencers on social comparison, studies such as Cheng, Burker & De Gant (2020) have identified such other potential influences.

Past studies into the effects and causes of SC have found that the experience differs from country to country (Sasaki, Ko & Kim, 2014; Gibbons & Buunk, 1999; Guimond et al, 2007), however the majority of current literature on SC is mainly pertaining to western orientated countries such as the US (Chou & Edge, 2012), however cultural differences such as the more collectivistic mindset of many Eastern cultures as opposed to the more individualistic setting many western cultures approach could greatly impact levels of SC, Cheng's study which conducted a survey on over 18 countries, Including those such as Brazil, Japan, the US, Thailand and more garnered results indicating that the variable of country was a more important predictor of SC than of other variables used in the study such as even those of gender and age, with results displaying SC was highest among eastern cultures, with countries such as India, Vietnam and Philippines showing the highest levels of SC while more western orientated countries such as Germany and the US as well as Mexico showing the lowest levels of SC across the board.

The results of Chengs' study could shine a light on the potential reasoning behind the lack of SC found in the present study relation to SNS usage, if country plays potentially an even larger factor in SC than other variables widely studied such as gender and age then further studies are needed to garner an accurate image of the current state of SC within an Irish context which would hold a more individualistic mindset than those of eastern cultures.

For the Second Hypothesis, the relationship between the impact of gender on the variables of SA and SC were investigated using a moderation analysis of which the results

Gender differences pertaining to
Social media; Social anxiety and Social comparison

showed that gender played no significant role within participants SA or SC levels, while the emotional differences between men and women has been a topic of debate in literature for years particularly SA differences between gender has not been a widely explored topic in current literature, one such study (Caballo et al, 2014) investigating the potential gender differences in SA over the span of 18 different countries composed of over 17000 female participants and 14000 male participants, utilising the same Libeowitz SA measure in conjunction with the SAQ-A30, yielded results indicating a significant yet only small difference between males and females in relation to SA, this result is seemingly reflected through other studies (Baloglu, Kozan & Kesici, 2018; Asher, Asnaani & Aderka, 2017) in which no significant gender differences what so ever were found between men and women in relation to levels of SA, it is potentially theorised that the growth in awareness of gender roles has led to this perceived decrease in recent studies of SA, which would correlate with one potential theory of gender differences known as the gender schema theory, coined by Sandra Bem in 1981, she theorised that the gender differences among men and women were founded at a very young age, with children adjusting their behaviour to align with the gender norms of their respective cultures from the earliest stages of social development through gender based schematic processing (Bem, 1981).

The same can be said for the perceived lack of difference in gender pertaining to SC level, as discussed earlier, it has been found in studies that variables such as cultural background can play a larger mediating role in SC among individuals then age or even gender, however Major, Schiaccitano & Crocker (1999) have found results displaying that SC flourishes more so with in-group comparisons rather than with out-group members, considering the context this current study took part in, the lack of significant difference between gender could be explained through the fact that in-group comparison simple wasn't available to the extent it normally is, due to the social impacts of the current pandemic

Gender differences pertaining to
Social media; Social anxiety and Social comparison

restrictions, with numbers showing that the majority of people an average SNS user would befriend on social media rarely being closely known friends (Lenhart & Madden, 2007).

Implications

Findings obtained from the current studies, while seemingly inconclusive have provided important theoretical and practical implications for future research, the current study highlights the importance on expanding research among gender differences among Social anxiety and Social comparison, such research could lead to new approaches on how to better handle instances of such things like cyber bullying and help promote a more mentally friendly online environment for all.

Findings from the current study have particularly important implications for social media usage and regulations that could perhaps be placed to decrease the instances of Social comparison particularly, specific regulations that have already been placed in certain EU countries such as Ireland pertaining to no longer displaying the number of likes on the SNS Instagram could be expanded upon in the future.

Strengths and limitations

The current study is among the first in a subcategory around the growing literature in relation to social media use and its impact on individuals, pertaining directly to the impact of gender on variables of Social anxiety and Social comparison providing it with the strength of traversing relatively new research ground, with the continued growth of SNS users (Perrin & Anderson, 2019), research into unexplored territory is more important than ever.

However the current study is not without possessing limitations, due to the nature of the self-report required for the study there is a risk of self-selection bias which may have caused participants to simply report how they felt at the moment rather than overall it would be recommended that for future research a longitudinal study is utilised to better study the effects of SNS, secondly an uneven distribution of female to male participants was present for the study results, leading to ungeneralisable results for genders and thirdly the results of the current study were unable to provide support for either the first or second hypothesis despite a significant yet weak relationship being found between SNS use and Social anxiety among participants.

Conclusion

The results of this current study have not provided support for the hypotheses within this study, however they have highlighted the need for future and more extensive research into this topic.

The current study has shown the potential differences of SNS use within an Irish context, while this study found weak support for a relationship between SNS use and Social anxiety it has called attention to the gap in prior beliefs pertaining to gender differences in expression of emotions to today's population.

Findings have drawn the spotlight to the need for newer and more extensive exploratory research for potential gender differences and while there is no question that the current study is far from perfect, it very well has the potential to act as a springboard for future more expanded upon research into the topics discussed.

References

- Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review*, 88(4), 354–364. DOI: <https://doi.org/10.1037/0033-295X.88.4.354>
- Chou G & Edge N. (2012). “They are happier and having better lives than I am”: the impact of using Facebook on perceptions of others’ lives. *Cyberpsychology, Behavior, and Social Networking* 15(2), 117–121
- Fernandez KC, Levinson CA, Rodebaugh TL. Profiling: predicting social anxiety from Facebook profiles. *Social Psychological and Personality Science*.3, 706-713. DOI: <http://dx.doi.org/10.1177/1948550611434967>
- Gadekar, R., & Ang, P. H. (2020). *Is Social Media Use Socially Enhancing or Compensating?* *Journal of Creative Communications*, 1,(20) DOI:10.1177/0973258620943705
- Gibbons X & Buunk P. (1999). Individual differences in social comparison: development of a scale of social comparison orientation. *Journal of Personality and Social Psychology* 76, 1-129.
- Guimond S, Branscombe R, Brunot S, Buunk P, Chatard A, Désert M, Garcia M, Haque S, Martinot D, & Yzerbyt V. (2007). Culture, gender, and the self: variations and impact of social comparison processes. *Journal of Personality and Social Psychology* 92(6).
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues*, 58(1), 49–74.
- Lesse, S. *Anxiety: Its components, development, and treatment*. New York: Game & Stratum, 1970.

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Major, B., Sciacchitano, A., & Crocker, J. (1993). Ingroup vs. outgroup comparisons and self-esteem. *Personality and Social Psychology Bulletin*, 9, 711–721
- Sasaki Y, Ko D, & Kim S. (2014). Culture and self-worth: Implications for social comparison processes and coping with threats to self-worth. *Communal functions of social comparison*, 230–252.
- Shaw, A. M., Timpano, K. R., Tran, T. B., & Joormann, J. (2015). Correlates of Facebook usage patterns: The relationship between passive Facebook use, social anxiety symptoms, and brooding. *Computers in Human Behavior*, 48, 575–580. DOI: 10.1016/j.chb.2015.02.003
- Zywicka, J., & Danowski, J. (2008). The faces of Facebookers: Investigating social enhancement and social compensation hypotheses; predicting Facebook™ and offline popularity from sociability and self-esteem, and mapping the meanings of popularity with semantic networks. *Journal of Computer-Mediated Communication*, 14(1), 1–34. DOI: <http://dx.doi.org/10.1111/j.1083-6101.2008.01429.x>
- Zahn-Waxler C, Cole PM, Barrett KC. Guilt and empathy: Sex differences and implications for the development of depression (1991). The development of emotion regulation and dysregulation. *Cambridge University Press*; Cambridge, pp. 243–272.
- “Demographics of Social Media Users and Adoption in the United States.” *Pew Research Center: Internet, Science & Tech*, Pew Research Center, 5 June 2020, www.pewresearch.org/internet/fact-sheet/social-media/.
- “Social Anxiety Disorder: More Than Just Shyness.” *National Institute of Mental Health*, U.S. Department of Health and Human Services (2020) www.nimh.nih.gov/health/publications/social-anxiety-disorder.com
- Adams S, Kuebli J, Boyle PA, Fivush R. Gender differences in parent–child conversations about past emotions: A longitudinal investigation. *Sex Roles* (1995) 33, 309–322.

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Allan & Gilbert (1997) The role of defeat and entrapment (arrested flight) in depression: an exploration of an evolutionary view, *Psychological medicine*, 28, 585-598.
- Allan, S. & Gilbert, P. (1995). A social comparison scale: Psychometric properties and relationship to psychopathology. *Personality and Individual Differences*, 19, 293-299.
- Antheunis ML, Schouten AP, Kraemer E. (2016) The role of social networking sites in early adolescents' social lives. *J Early Adolesc* 36, 348–371.
- Asher M, Asnaani A & Aderka I, (2017), Gender differences in social anxiety disorder: A review, *Clinical Psychology review*, 56, DOI: [10.1016/j.cpr.2017.05.004](https://doi.org/10.1016/j.cpr.2017.05.004)
- Baloglu M, Kozan H & Kesici S, (2018), Gender Differences in and the Relationships Between Social Anxiety and Problematic Internet Use: Canonical Analysis, *Journal of medical internet research*, 20(1), DOI: [10.2196/jmir.8947](https://doi.org/10.2196/jmir.8947)
- Bergagna E & Tartaglia S. (2018) Self-Esteem, Social Comparison, and Facebook Use, *Europe's Journal of Psychology*, 14(4), 831-845, DOI: <https://doi.org/10.5964/ejop.v14i4.1592>
- Boers E, Afzali M & Conrod P. (2019) Temporal Associations of Screen Time and Anxiety Symptoms Among Adolescents, *The Canadian Journal of Psychiatry*, 65(3), 206-208. DOI: <https://doi.org/10.1177/2F0706743719885486>
- Brickman, P., & Bulman, R. (1977). Pleasure and pain in social comparison. In J. Suls & R. Miller (Eds.), *Social comparison processes: Theoretical and empirical perspectives* (pp. 149–186). Washington, DC: Hemisphere.
- Brody LR. Gender, emotion, and the family. Harvard University Press; Cambridge, MA: 1999
- Buck R. Nonverbal communication of affect in preschool children: Relationships with personality and skin conductance. (1977) *Journal of Personality and Social Psychology*. 4,225–236. doi:10.1037//0022–3514.35.4.225

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Caballo V, Salazar I, Irurtia M, Arias B & Hofmann S, (2014), Differences in social anxiety between men and women across 18 countries, *Pers Individ Dif*, 64, 35-40, DOI: [10.1016/j.paid.2014.02.013](https://doi.org/10.1016/j.paid.2014.02.013)
- Calancie O, Ewing L, Narducci, L. D, Horgan S & Khalid-Khan, S (2017) Exploring how social networking sites impact youth with anxiety: A qualitative study of Facebook stressors among adolescents with an anxiety disorder diagnosis. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 11(4), article 2. doi: 10.5817/CP2017-4-2
- Chaplin TM, Cole PM. The role of emotion regulation in the development of psychopathology. In: Hankin BL, Abela JRZ, editors. *Development of psychopathology: A vulnerability-stress perspective*. (2005) Sage; Thousand Oaks, CA: 49–74
- Chaplin TM, Hong KA, Bergquist K, Sinha R. (2008) Gender differences in response to emotional stress: An assessment across subjective, behavioral, and physiological domains and relations to alcohol craving. *Alcoholism: Clinical and Experimental Research*. 32, 1242–1250
- Cheng J, Burke M & De Gant B, (2020) Country Differences in Social Comparison on Social Media, *ACM*, 1(1), DOI: <https://doi.org/10.1145/1122445.1122456>
- Chou, H.-T. G., & Edge, N. (2012). “They are happier and having better lives than I am”: The impact of using Facebook on perceptions of others’ lives. *Cyberpsychology, Behavior, and Social Networking*, 15, 117–121. DOI:10.1089/cyber.2011.0324
- Clement, j., 2020. Number Of Social Media Users Worldwide | Statista.
<https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/>
[Accessed 9th October 2020].
- Crone E & Konijin E (2018). Media use and brain development during adolescence, *Nature Communications*, 9(1), 588. DOI: [10.1038/s41467-018-03126-x](https://doi.org/10.1038/s41467-018-03126-x)
- Cross, S., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin*, 122, 5–37.

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Deng Y, Chang L, Yang M, Huo M & Zhou R. (2016) Gender Differences in Emotional Response: Inconsistency between Experience and Expressivity, *Plos One*, 11(6) DOI:
<https://doi.org/10.1371/journal.pone.0158666>
- Deng Y, Chang L, Yang M, Meng H & Zhou R, (2016) Gender Differences in Emotional Response: Inconsistency between Experience and Expressivity, *Plos One*, DOI:
<https://doi.org/10.1371/journal.pone.0158666>
- Dunn, J., Bretherton, I., & Munn, P. (1987). Conversations about feeling states between mothers and their young children. *Developmental Psychology*, 23, 132–139.
- Eagly AH, Steffen VJ. Gender stereotypes stem from the distribution of women and men into social roles. *Journal of Personality and Social Psychology*. 46, 735–754. DOI:10.1037/0022–3514.46.4.735.
- Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation processes in the online dating environment. *Journal of Computer-Mediated Communication*, 11, 415– 441. DOI: 10.1111/j.1083-6101.2006.00020.x
- Fernández C, Pascual JC, Soler J, Elices M, Portella MJ, Fernández-Abascal E. (2012) Physiological responses induced by emotion-eliciting films. *Appl Psychophys Biof*. 37(2): 73–9.
- Festinger, L. (1954) A theory of social comparison processes, *Human relations*, 7, 117-140
- Fresco D.M, Coles M.E, Heimberg R.G, Liebowitz M.R, Hami S, Stein M.B & Goetz D, (2001), The Liebowitz Social Anxiety Scale: a comparison of the psychometric properties of self-report and clinician-administered formats, *Psychological Medicine*, 6, 1025-1035. DOI: 10.1017/s0033291701004056.
- Furnham A, Dowsett T, (1993) Sex difference in social comparison and uniqueness bias, *Personality and individual differences*, 15(2), 175-183. DOI: [https://doi.org/10.1016/0191-8869\(93\)90024-W](https://doi.org/10.1016/0191-8869(93)90024-W)
- Fuster H, Chamarro A & Oberst U, (2017) Fear of Missing Out, online social networking and mobile phone addiction: A latent profile approach, *Aloma*, 35(1), 23-30.

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Galton, F. (1876). The History of Twins, as a Criterion of the Relative Powers of Nature and Nurture. *The Journal of the Anthropological Institute of Great Britain and Ireland*, 5, 391. DOIw:10.2307/2840900
- Gawda B, (2013) The Emotional Lexicon of Individuals Diagnosed with Antisocial Personality Disorder, *J Psycholinguist Res*, 42(6), 571-580. DOI: [10.1007/s10936-012-9237-z](https://doi.org/10.1007/s10936-012-9237-z)
- Goethals, G., Messick, D. M., & Allison, S. T. (1991). The uniqueness bias: Studies of constructive comparison. In J. Suls & T. A. Wills (Eds.), *Social comparison: Contemporary theory and research* (pp. 149–176). Hillsdale, NJ: Erlbaum.
- Große Deters F, Mehl MR, Eid M (2016). Social responses to Facebook status updates: the role of extraversion and social anxiety. *Computers in Human Behavior*, 61, 1–13.
- Gurin, G., Veroff, J., & Feld, S. (1960). *Americans view their mental health: A nationwide interview survey*. New York: Basic Book
- H. Appel, J. Crusius, A.L. Gerlach (2015) Social comparison, envy, and depression on Facebook: a study looking at the effects of high comparison standards on depressed individuals, *J Soc Clin Psychol*, 34, 277-289.
- H. Appel, J. Crusius, A.L. Gerlach (2015) Social comparison, envy, and depression on Facebook: a study looking at the effects of high comparison standards on depressed individuals, *J Soc Clin Psychol*, 34, 277-289.
- H. Krasnova, H. Wenninger, T. Widjaja, P. Buxmann (2013) *Envy on Facebook: a hidden threat to users' life satisfaction?* T. Eymann, G. Schwabe (Eds.), 11th Int. pp. 1-16
- Haavio-Mannila, E. (1971). Satisfaction with family, work, leisure and life among men and women. *Human Relations*, 24, 585-601

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Hajure M & Abdu Z (2020) Social Phobia and Its Impact on Quality of Life Among Regular Undergraduate Students of Mettu University, Mettu, Ethiopia, *Adolesc Health Med Ther*, 11, 79-87.
DOI: <https://doi.org/10.2147/AHMT.S254002>
- Henderson, Gary. *How Much Time Does The Average Person Spend On Social Media?*, 2020,
www.digitalmarketing.org/blog/how-much-time-does-the-average-person-spend-on-social-media.
- Indian, M., & Grieve, R. (2014). When Facebook is easier than face-to-face: Social support derived from Facebook in socially anxious individuals. *Personality and Individual Differences*, 59, 102-106. DOI: <https://doi.org/10.1016/j.paid.2013.11.016>
- Jefferies P & Ungar M (2020) Social anxiety in young people: A prevalence study in seven countries, *Plos One*, DOI: <https://doi.org/10.1371/journal.pone.0239133>
- Jones, E. E., & Pittman, T. S. Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological perspectives on the self*. Hillsdale, N.J.: Erlbaum, 1982.
- Jones, E. E., & Wortman, C. *Ingratiation: An attributional analysis*. Morristown, N.J.: General Learning Press, 1973.
- Kramer, A. D., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *Proceedings of the National Academy of Sciences*, 111, 8788-8790.
- Kring AM, Gordon AH. (1998) Sex differences in emotion: Expression, experience, and physiology. *Journal of Personality and Social Psychology*. 74:686–703. doi:10.1037/0022–3514.74.3.686
- Labouvie-Vief G, Lumley MA, Jain E, Heinze H. (2003) Age and gender differences in cardiac reactivity and subjective emotion responses to emotional autobiographical memories . *Emotion*. 3(2), 115-26.
DOI: 10.1037/1528-3542.3.2.115.

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Labrague L. (2014). Facebook use and adolescents' emotional states of depression, anxiety, and stress. *Health Science Journal*, 8, 80-89
- Lee-Won RJ, Herzog L, Park SG, (2015). Hooked on Facebook: The role of social anxiety and need for social assurance in problematic use of Facebook. *Cyberpsychology Behaviour Society Network* 18, 567–574.
- Lenhart & Madden, (2007). *Friendship, Strangers and Safety in Online Social Networks*, <https://www.pewresearch.org/internet/2007/04/18/friendship-strangers-and-safety-in-online-social-networks/>.
- Lenhart, A., Duggan, M., Perrin, A., Stepler, R., Rainie, H., & Parker, K. (2015). *Teens, social media & technology overview 2015*. Pew Research Center. Retrieved from <http://www.pewinternet.org/2015/04/09/teens-socialmedia-technology-2015/>
- Liebowitz MR. (1987) Social phobia. *Modern Problems in Pharmacopsychiatry*. 22,141–173.
- Lockwood, P., & Kunda, Z. (1997). Superstars and me: Predicting the impact of role models on the self. *Journal of Personality and Social Psychology*, 73, 91–103. DOI:10.1037/0022-3514.73.1.91
- Marsh, H. W., & Parker, J. W. (1984). Determinants of student self-concept: Is it better to be a relatively large fish in a small pond even if you don't learn to swim as well? *Journal of Personality and Social Psychology*, 47, 213–231. DOI:10.1037/0022-3514.47.1.213
- McRae K, Ochsner K, Mauss B. I, Gabrieli J. D. J, Gross J. J (2008) Gender Differences in Emotion Regulation: An fMRI Study of Cognitive Reappraisal, *Group Processes Intergroup Relat*, 11(2), 143-162. DOI: [10.1177/1368430207088035](https://doi.org/10.1177/1368430207088035)
- Morin-Major, J. K., Marin, M. F., Durand, N., Wan, N., Juster, R. P., & Lupien, S. J. (2016). Facebook behaviors associated with diurnal cortisol in adolescents: Is befriending stressful?. *Psychoneuroendocrinology*, 63, 238-246. DOI: <https://doi.org/10.1016/j.psyneuen.2015.10.005>

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Nolen-Hoeksema S, Hilt L. Possible contributors to the gender differences in alcohol use and problems, (2006) *The Journal of General Psychology*. 133, 357–374
- Nurit, S., Luria, R., Chandhok, S., Vickers, B., Kross, E., Sheppes, G. (2020) When facebook and finals collide - procrastinatory social media usage predicts enhanced anxiety, *The school of Psychological Sciences*.
- Ortiz-Ospina, Esteban. “The Rise of Social Media.” *Our World in Data*, 2019, ourworldindata.org/rise-of-social-media.
- Perrin & Anderson (2019), *Share of U.S. adults using social media, including Facebook, is mostly unchanged since 2018*, Pew research centre, <https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-social-media-including-facebook-is-mostly-unchanged-since-2018/>
- Prizant-Passal, S., Shechner, T., & Aderka, I.M. (2016). Social anxiety & internet use – A metaanalysis: What do we know? What are we missing? *Computers in Human Behavior*, 62, 221-229. DOI: [10.1016/j.chb.2016.04.003](https://doi.org/10.1016/j.chb.2016.04.003)
- Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29, 1814-1848.
- Pulford D.B, Woodward B & Taylor E, (2018) Do social comparisons in academic settings relate to gender and academic self-confidence?, *Social Psychology of Education*, 21, 677-690 DOI: <https://doi.org/10.1007/s11218-018-9434-1>
- Russell G & Topham P (2012) The impact of social anxiety on student learning and well-being in higher education, *Journal Of mental health*, 21(4), 375-385.

Gender differences pertaining to
Social media; Social anxiety and Social comparison

- Schachter, S. (1959). *The psychology of affiliation: Experimental studies of the sources of gregariousness (Vol. 1)*. Stanford, CA: Stanford University Press.
- Schlenker, B. R., & Leary, M. R. (1982). *Social anxiety and self-presentation: A conceptualization model*. *Psychological Bulletin*, 92(3), 641–669. doi:10.1037/0033-2909.92.3.641
- Shaw, A. M., Timpano, K. R., Tran, T. B., & Joormann, J. (2015). Correlates of Facebook usage patterns: The relationship between passive Facebook use, social anxiety symptoms, and brooding. *Computers in Human Behavior*, 48, 575-580. <https://doi.org/10.1016/j.chb.2015.02.003>
- Sherman L, Hernandez L, Greenfield P & Dapretto M, (2018). What the brain ‘Likes’: neural correlates of providing feedback on social media, *Social Cognitive and Affective Neuroscience*, 18(7), 699-707. DOI: <https://doi.org/10.1093/scan/nsy051>
- Sherman L, Payton A, Hernandez L, Greenfield P & Dapretto M. (2016). The Power of the *Like* in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media, *Psychological Science*, 27(7), 20127-1035. DOI: <https://doi.org/10.1177/0956797616645673>
- Steinbeis N & Singer T (2013), The effects of social comparison on social emotions and behavior during childhood: The ontogeny of envy and Schadenfreude predicts developmental changes in equity-related decisions, *Journal of Experimental Child Psychology*, 115(1), 198-209. DOI: <https://doi.org/10.1016/j.jecp.2012.11.009>
- Sullivan, H. S. *Conceptions of modern psychiatry*. New York: Norton, 1953.
- Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, 90, 245–271. DOI:10.1037/0033-2909.90.2.245

Gender differences pertaining to
Social media; Social anxiety and Social comparison

Appendices:

Appendix 1A: Information sheet

Participation Information Sheet

What is this study about?

I am a final year student in the BA in Psychology programme at National College of Ireland. As part of our degree we must carry out an independent research project, for my project I aim to investigate the relationship between social media usage and social comparison in relation to social anxiety levels and examining these measurements across the difference of gender.

What will taking part in the study involve?

If you decide to take part in this study you will be asked to complete an online questionnaire that will ask you questions relating to your social media network usage, social anxiety levels and social comparison levels.

Type of questions to expect?

-questions will be asked in order to measure your levels of social media usage using the SMEQ (social media engagement Questionnaire) such as being asked to describe "how often do you use social media during breakfast?"

Gender differences pertaining to
Social media; Social anxiety and Social comparison

-Social Anxiety levels will also be measured using the Liebowitz anxiety scale test, by rating participants fear and avoidance levels over specific social events such as being asked to rate their levels of fear & avoidance over "urinating in public"

-Finally Social comparison levels will measure how you compare yourself in relation to others utilising questions from the Social Comparison Scale, with participants being asked questions such as asking you to rate yourself on a scale of 1-10 in regards to how "short or tall you percieve yourself".

Who can take part?

You cannot take part in the study if you are below the age of 18 or above the age of 29 and some form of social media presence. (i.e must have an

Instagram/Snapchat/Facebook/WhatsApp account you utilise at least once per week)

It is also recommended if you have previously been diagnosed with anxiety to not take part, as some questions may be triggering.

Do I have to take part?

You do not have to take part, you can withdraw at any time without consequence however, once you have submitted your questionnaire, it will not be possible to withdraw your data from the study, because the questionnaire is anonymous and individual responses cannot be identified however all your data from the questionnaire will be kept securely and will be released unidentifiable.

Gender differences pertaining to
Social media; Social anxiety and Social comparison

What are the possible risks of taking part?

There is a small risk that some of the questions contained within this survey may cause minor distress for some participants. If you experience this, you are free to discontinue participation and exit the questionnaire. Contact information for relevant support services are also provided at the end of the questionnaire.

Will taking part be confidential?

The questionnaire is anonymous, it is not possible to identify a participant based on their responses to the questionnaire. All data collected for the study will be treated in the strictest confidence.

Responses to the questionnaire will be stored securely in a password protected/encrypted file on the researcher's computer. Only the researcher and their supervisor will have access to the data. Data will be retained for 5 years in accordance with the NCI data retention policy.

What will happen with the results of the study?

The results of this study will be presented in my final dissertation, which will be submitted to National College of Ireland.

If you have any further questions please contact me or my supervisor for this research project, Dr Matthew Hudson at the following email address':

-x18450636@student.ncirl.ie

-Matthew.Hudson@ncirl.ie

Appendix 1B: Informed consent form

Informed consent form

GENDER DIFFERENCES IN THE RELATIONSHIP BETWEEN SOCIAL MEDIA
USAGE, SOCIAL COMPARISON AND SOCIAL ANXIETY LEVELS.

By ticking the associated box below, you are agreeing that

- (1) you have read and understood the Participant Information Sheet
- (2) questions about your participation in this study have been answered satisfactorily
- (3) you are aware of the potential risks (if any)
- (4) you are taking part in this research study voluntarily (without coercion).

Would you like to participate? By clicking 'yes' you are consenting to participate in this study.

Yes

No

Appendix 2: Demographics questionnaire

By clicking 'yes' you are agreeing that you are over the age of 18 and under the age of 29

- yes
- no

Do you classify yourself as male or female?

- Male
- Female
- Other

Appendix 3: Social Media Engagement Questionnaire (Przybylski, Murayama, DeHann & Gladwell, 2013)

Social Media Usage

Please select a number along the line to represent how often you utilise social media

In relation to the past week, how often have you used social media 15 minutes prior to sleeping?

Not one day Seven days

How often did you use social media in the first 15 minutes after you woke up?

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Social media; Social anxiety and Social comparison

Not one day Seven days

How often did you use social media when eating breakfast?

Not one day Seven days

How often did you use social media when eating lunch?

Not one day Seven days

How often did you use social media when eating dinner?

Not one day Seven days

Appendix 4: Social Comparison Scale (Allan & Gilbert, 1995)

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SOCIAL COMPARISON SCALE

Please circle a 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 put a mark at 3 this means you see yourself as shorter than others; if you put a mark at 5 (middle) about average; and a mark at 7 somewhat taller.

If you understand the above instructions, please proceed. Circle one number on each line according to how you see yourself in relationship to others.

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 5: Social Anxiety Scale (Libeowitz, MR, 1987)

SOCIAL ANXIETY

This section will present you with a variety of scenarios, in relation to which you will be asked two things:

1: How fear provoking the situation makes you (none/mild/moderate/severe)

2: The level of likeliness you would be to avoid such scenario (none/mild/moderate/severe)

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Urinating in public

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Using a telephone in Public

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Talking to someone in authority

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Participating in small groups

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Eating in public

Gender differences pertaining to
Social media; Social anxiety and Social comparison

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drinking with others

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Going to a party

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Acting, performing or speaking in front of an audience

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Working while being observed

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Gender differences pertaining to
Social media; Social anxiety and Social comparison

Avoidance

Writing while being observed

None Mild Moderate Severe

Fear

Avoidance

Calling someone you don't know very well

None Mild Moderate Severe

Fear

Avoidance

Talking face to face with someone you don't know very well

None Mild Moderate Severe

Fear

Avoidance

Meeting strangers

None Mild Moderate Severe

Fear

Avoidance

Entering a room when others are already seated

Gender differences pertaining to
Social media; Social anxiety and Social comparison

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Being the centre of attention

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Speaking up at a meeting

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Taking a test of your ability, Skill or Knowledge

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Giving a prepared oral talk to a group

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Gender differences pertaining to
Social media; Social anxiety and Social comparison

Avoidance

Expressing disagreement or disapproval at someone you don't know very well

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Looking Someone you don't know very well in the eyes

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Returning goods to a store for a refund

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Try to make someone's acquaintance for the purpose of a romantic/sexual relationship

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Giving (hosting) a party

Gender differences pertaining to
Social media; Social anxiety and Social comparison

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Resisting a high-pressure sales person

	None	Mild	Moderate	Severe
Fear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoidance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 6: De-briefing form

De-Briefing Form

Study Title: Gender differences in the relationship between Social media usage, Social comparison and Social anxiety levels

Researcher Name: Sean Maiben

Dear participant,

Gender differences pertaining to
Social media; Social anxiety and Social comparison

I want to thank you for taking part in this research study, the aim of this study was to investigate the possible relationship between a person's use of social media and the levels of social anxiety they may have.

This result was then again compared against gender to investigate if both male and females alike utilised social media to the same extent and if this could explain the former mentioned social anxiety levels.

I want to reassure you that all data gathered is fully anonymous and will be treated with the highest of discrepancy.

Should you have any questions or query's related to the study or anything related please reach me at this email address:

X18450736@student.ncirl.ie

Or my project supervisor:

Matthew.Hudson@ncirl.ie

Note: This is your last chance to withdraw from the study.

If you wish to do so, simply close the browser window.

If you wish to submit your data, please click the 'submit' button below.

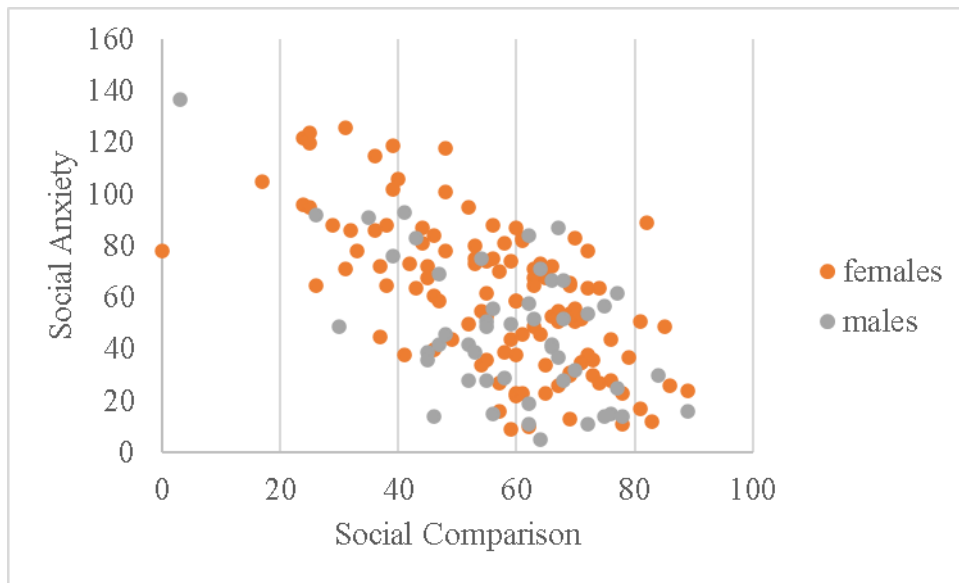
If you have felt overwhelmed or negatively impacted by anything within this research study,
below are a list of helplines to help aid you:

-Texting 'HELLO' to 50808 is a free service which will put you through to a trained crisis
volunteer in which they will listen to whatever you have to say in relation to anxious thinking
or any negative emotions, at your own pace.

-Niteline is an out of hours support for students, by calling the number 1800793793 you will
be put through to a volunteer to guide you through any negative emotions or thoughts you
may be having, alternatively you can access their website to have an online chat at
<https://niteline.ie/>

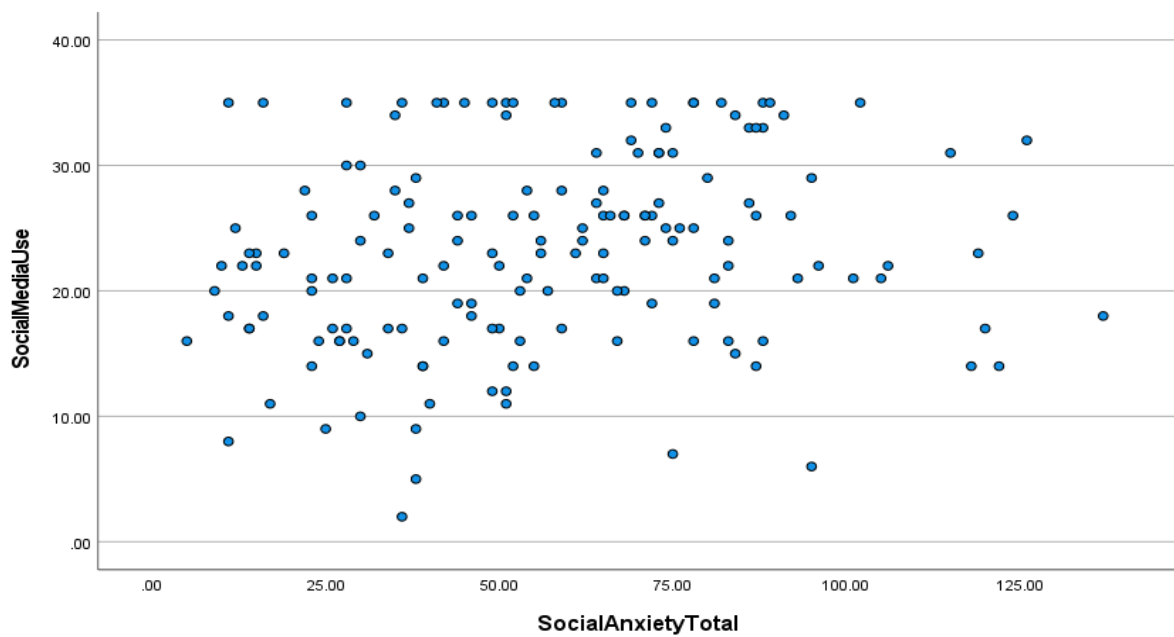
Appendix 7: Scatterplot displaying the moderating effect of gender in relation to Social
Comparison and Social anxiety levels.

Gender differences pertaining to
Social media; Social anxiety and Social comparison



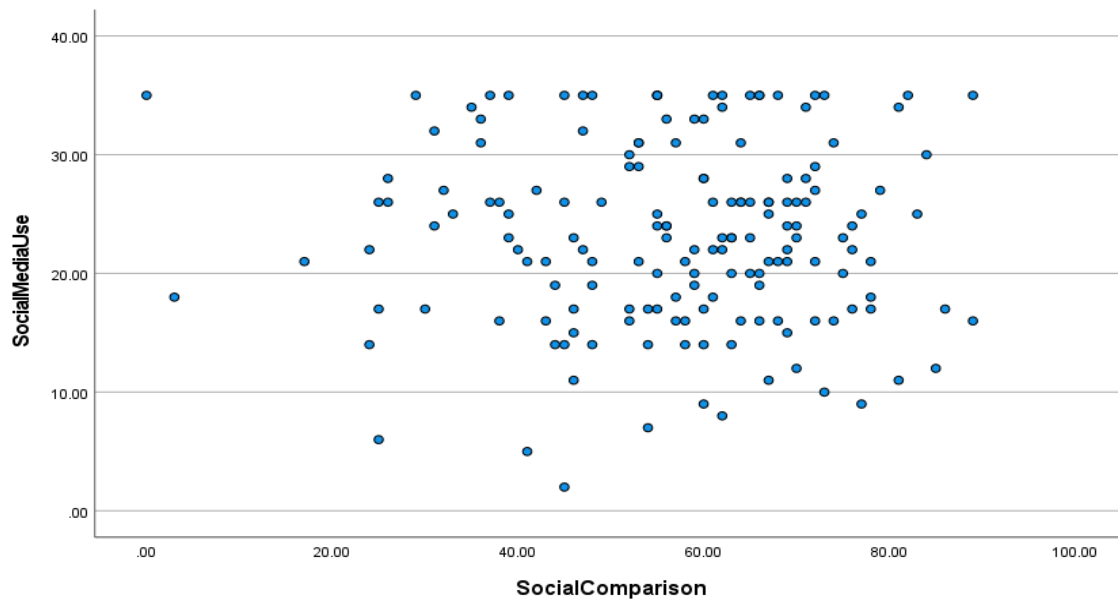
Appendix 8: Preliminary analyses for Pearson’s product-moment correlation displaying normal distribution.

1A: Social anxiety and Social media use



Gender differences pertaining to
Social media; Social anxiety and Social comparison

1B: Social comparison and social media use



Appendix 9:

Output for SPSS statistics procedures ran

1A: Data view Window

SPSS Data Editor window showing the following data:

Case	Gender	SMEQ1	SMEQ2	SMEQ3	SMEQ4	SMEQ5	SOCIALCOMP ARISON1	SOCIALCOMP ARISON2	SOCIALCOMP ARISON3	SOCIALCOMP ARISON4	SOCIALCOMP ARISON5
33	female	7	5	3	3	5	3	5	6	6	
34	female	7	4	0	0	0	6	5	4	3	
35	female	7	7	7	7	7	5	6	9	3	
36	female	7	7	0	0	0	4	6	5	4	
37	female	7	5	2	7	0	5	6	4	3	
38	female	7	7	7	7	7	5	4	6	4	
39	female	7	4	6	7	2	0	8	7	4	
40	female	7	7	5	7	3	3	2	5	7	
41	female	5	5	3	3	1	5	6	6	4	
42	female	7	7	6	5	4	5	6	2	6	
43	female	7	7	7	7	3	6	5	5	6	
44	female	7	7	7	7	3	5	9	4	4	
45	female	7	7	0	0	0	8	5	5	5	
46	female	7	4	1	4	1	5	5	4	10	
47	female	7	7	4	3	4	3	5	8	7	
48	female	7	7	3	5	2	4	4	7	8	
49	female	7	6	3	4	0	4	5	5	9	
50	female	5	3	2	7	0	5	8	6	3	
51	female	7	5	7	7	7	5	5	5	6	
52	female	7	5	5	7	0	5	6	7	6	
53	female	7	7	7	7	3	7	4	8	6	

1B: output window for SPSS

Gender differences pertaining to Social media; Social anxiety and Social comparison

Correlations

Correlations			SocialMediaUse	SocialComparison
SocialMediaUse	Pearson Correlation		1	-.018
	Sig. (2-tailed)			.818
	N		165	165
	Bootstrap ^c	Bias	0	.000
		Std. Error	0	.082
		BCa 95% Confidence Interval	Lower	.
	Upper		.	.144
SocialComparison	Pearson Correlation		-.018	1
	Sig. (2-tailed)		.818	
	N		165	165
	Bootstrap ^c	Bias	.000	0
		Std. Error	.082	0
		BCa 95% Confidence Interval	Lower	-.190
	Upper		.144	.

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

GRAPH

elations

Title

Notes

Correlations

strap

Title

Notes

Bootstrap Specifications

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Correlations

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Scatter of SocialMediaUse S

Matrix

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5.3 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : SocialAn
X : SocialCo
W : GENDERAU

Sample
Size: 165

OUTCOME VARIABLE:
SocialAn

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.64	.41	495.60	36.65	3.00	161.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	82.48	8.88	9.29	.00	64.95	100.02
SocialCo	-1.19	.55	-2.17	.03	-2.28	-.11
GENDERAU	-11.13	3.78	-2.94	.00	-18.61	-3.66
Int_1	.06	.24	.27	.79	-.40	.53

Product terms key:
Int_1 : SocialCo x GENDERAU