

**Social Media Interaction: Effects on Self-esteem and Anxiety comparing Age, Gender
and Socio-Economic Status**

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Abstract

This study examined the relationship between extended social media use, self-esteem, social media interaction anxiety and social media self-evaluation anxiety. Gender differences, generational differences and socio-economic status was examined throughout the analysis. Participants (n216) over 18 years were recruited via convenience sampling which escalated to a snowball sample using a quantitative questionnaire. This was shared across social media platforms. A Spearmans Rho determined a negative relationship between social media use and self-esteem in the female cohort, but failed to replicate this for males. Similarly self-esteem increased with extended social media use in the 18-34 year olds, yet the same effect was not evident for the 35-65 year olds. A. Kruskal Wallis H failed to establish any differences across socio-economic status, self-esteem and social media use. A correlation in social media use and social media interaction anxiety across both age groups was established. Further implications are discussed throughout.

1. Introduction

The world in the palm of your hand, quite literally. Accessibility to any and all information at your fingertips with social media being a pillar in everyday life and conversation. But, has our advances in technology and connectivity become detrimental to an individual's anxiety and self-esteem?

Self-esteem and anxiety are the hot topics of the past decade, and social media has been scrutinized as playing a role in the effects (Vogel, Rose, Roberts, & Eckles, 2014). There has been an increasing volume of research in the area of social media use and self-esteem, yet the technology age advances far quicker than any research can be published (Sowislo & Orth, 2013). New trends are emerging on a daily basis that have the ability to impact on an individual's self-esteem and anxiety levels. Gamification additions to media and biodata being published for all to see keep us logging in and up to date with all of our daily activities, the most recent phrase of 'do it for the 'gram' referring to Instagram. The phrase itself insinuates a disconnect from an individual's reality, this is not my real life, this is just what I show you. Self-presentation online is discussed in further detail throughout the literature review. Historically media was seen to impact the self-esteem levels predominantly of females, specifically relating to body image (Chua & Chang, 2016). Print media and social media may share the same attributes, however the age of the influencer is upon us and we invite them into our lives more often unwittingly and at the touch of a button (Mander & Valentine, 2018). The current study aims to examine a potential causal relationship between self-esteem, anxiety and extended social media use.

1.1 Self-esteem

Self-esteem has been described as having at least two components (University of Washington, 2013) and as many as six (Branden, 1995), which will be outlined further on in

the review. The two-component model of self-esteem has been described by the University of Washington (2013) as an affective model comprised of feelings of 1. Belonging and 2. Mastery. These feelings are rooted in childhood and developed over time, this is what forms the basis of our self-esteem. Research in the area of childhood development of self-esteem indicates that we can assess self-esteem levels in children as young as five years old, however further interest in the malleability of self-esteem has been expressed by the researcher (University of Washington, 2015). Multiple developmental and attachment theories have established that it is during childhood that the baseline of high or low self-esteem is set. This does not mean that self-esteem levels are static throughout an individual's life, more so they are more likely to have either high or low self-esteem depending on the precedence. In short, self-esteem is comprised of one's own perception of attitudes towards oneself. For the most part, we are not consciously aware or participate in the components of self-esteem, "Self-esteem reflects perception rather than reality" (Zeigler-hill, p.2, 2013). This is an extremely important statement in regards to the current study, as this study focuses on the impact social media plays on self-esteem and anxiety. Rosenberg (1965) also portrayed a developmental assumption of self-esteem, he believed that self-esteem was established during the exploration stage throughout adolescence. Rosenberg proposed two types of self-esteem; global self-esteem and specific self-esteem. Global self-esteem is what we portray as our overall wellbeing, how we perceive ourselves and how we feel about ourselves; this is not a conscious process. Specific self-esteem relates to our behaviour and our confidence in our ability to achieve an outcome.

Alternatively, Branden (1995) proposed his six pillars of self-esteem and each of these pillars require active participation. The six pillars are as follows; 1. Living consciously 2. Self-acceptance 3. Self-responsibility 4. Self-assertiveness 5. Living purposefully 6. Personal discipline. All of the pillars Branden established require active participation from the individual and leave no room for the developmental aspect of self-esteem. The six pillar model could be

a model for improving self-esteem levels throughout adulthood, however, we need to consider predisposing levels to ascertain potential achievement or changes.

1.2 Anxiety

Anxiety has been described as the body's natural response to stressful situations, it is when the state of anxiety is prolonged it becomes problematic. It is characterised by a series of physiological symptoms such as increased heart rate, sweating, increased respiration etc. and psychological symptoms such as a feeling of dread or fear (Holland, 2018). Much like self-esteem, anxiety is comprised of individual and environmental factors incorporating brain chemistry. Furthermore, anxiety is a perception and is not based on rational thought (Cell Press, 2016). Generally, how we feel about a situation will be based on previous experience and trait anxiety combined with our perceived ability to cope with external stressors (Raffety, Smith, & Ptacek, 1997). Research has shown that anxiety over time disrupts the decision making regions of the prefrontal cortex, which leads to impaired emotional regulation and poor judgement (Bergland, 2016).

1.3 Social Media

Social media and social networking sites have made a shift in the past decade from posting information about oneself online to predominantly image-based sharing. Facebook has recently taken a back step and Instagram has risen to the forefront of social media sharing, topping 1 billion active users in June 2018 (Instagram, 2019). With Instagram providing a 'stories' option for individuals to share small videos and images, they have taken over snapchat in this regard. The addition of filters and the ability to alter our own images, with technological advances from what used to take a specialist to 'Photoshop™' images on a desktop can now be achieved with the simple swipe of your smartphone. The perceptual element of self-esteem is now more important than ever. Deceptive self-presentation has seen

some reactive strategies from the advertising standard association of Ireland (ASAI, 2018), where influencers are liable for their deceptive content and clarity must be provided when an organisation has paid for their product to be displayed by the influencer by using the hashtag #AD. Prior to the addition of advertising standards deception was a regular feature across social media. Kleemans, Daalmans, Carbaat and Anschutz (2016) found that adolescent girls exposed to filtered images reported them to be realistic and comparable. Instagram has attempted to provide more clarity by stamping the top corner of the screen stating what filter is being used by the individual. This is however only evident on the 'stories' feature of the app. Research in the area of deception online found that individuals were consciously deceptive and used it as a tool for their own benefit, for example, gaining a love interest or establishing a relationship (Toma, Hancock, & Ellison, 2008).

1.4 Previous Research

Previous research in the area of social media interaction on self-esteem has shown differing outcomes depending on the amount of time spent using social media. Gonzales and Hancock (2010) conducted a study to establish self-esteem and self-presentation with a group of 63 students. The students participated in the study for extra credits, there were 16 males and 47 females separated into three groups, each group had 21 participants. The three groups consisted of one group exposed to a mirror, one group with access to their own Facebook profile and the third group with no treatment. Both offline groups were informed they were a control group. The assessment was made using the Rosenberg self-esteem scale, and the Selective self-presentation scale. Results show the longer an individual interacted with their own Facebook profile, the higher their self-esteem. A comparison was made between objective self-awareness and selective self-presentation. Objective self-awareness relates to the individual being consciously aware of self, a reflection of oneself for example, contrary to objective there is subjective. A subjective self-awareness is an unconscious state where we

participate in our day without being aware of the self, therefore self-evaluations are not made. Selective self-presentations are common across all social media platforms, this relates to an individual presenting their best or potentially false self and this was the determining factor in the research result. Findings show individuals who spent longer interacting with their own profile had higher self-esteem. A gender comparison was also conducted with no significant results produced. However, Vogel et al. (2014) conducted two studies assessing self-esteem levels and social comparison via social media. Study 1 had a cohort of 145 undergraduate students, 105 were female. The study was lab-based and measures used included the Rosenberg Self-Esteem scale, Facebook use scale and social comparisons on Facebook. Initial results indicated that interaction times were correlated with self-esteem levels, a second study was conducted to establish social comparison effect in short interaction times. Study 2 was conducted with 128 undergraduate students, 94 females from the same college. Facebook profiles were presented to the participants, in a manner of upward and downward comparison. Results concluded that individuals were more likely to rate themselves less favourably in an upward comparison, yet, there was no change when reviewing a downward comparison. Research indicated lower levels of self-esteem regardless of interaction times and indicated lower self-esteem levels were as a result of the type of interaction. Additionally Kleemans et al. (2016), also argue the type of interaction as a determining factor. Has the individual spent time sharing and commenting with friends or just loitered on pages they find desirable? The type of interaction with social media was explored, with results indicating that an individual's negative association with self-esteem was correlated with addictive social media use across different social media platforms such as Facebook, Instagram etc. (Hawi & Samaha, 2016). Alas, it is difficult to determine whether a low self-esteem level is what leads to negative social media use.

Valkenberg, Jochen and Schouten (2006) conducted research on the type of feedback received through social media via a friend networking site. 881 adolescent participants from the age of 10-19 years were involved in the study. Using a Dutch friend networking site the time spent accessing the site, the type of interaction and the level of feedback either positive or negative was explored. Findings concluded that there was a correlation with positive and negative feedback. Positive feedback increased self-esteem levels and unsurprisingly, negative feedback decreased self-esteem levels, no direct effect was observed as a result of time spent accessing the site. While this piece of research is interesting, there had been no established baseline assessment for the predisposing self-esteem levels prior to receiving feedback or if they knew the individual providing feedback personally. Burke and Kraute (2016) established relationship value in feedback received. Using a cohort of 1,910 opt-in Facebook users, an evaluation was made on each individual's belongingness, relationship investment and maintenance, social support and social comparison. Results show as long as there is a personal relationship between those communicating and the information is of interest to the individual, it can be perceived as beneficial compared to feedback from an unknown party.

Past assumptions of self-talk fake it 'til you make it, was reported to promote self-confidence and increased self-esteem levels internally. However, those who fake it online were found to have lower self-esteem levels, increased anxiety, increased aggression levels and poorer social skills, regardless of interaction times. In a study conducted by Harman, Hansen, Cochran & Lindsey (2005), participants aged 11-16 years faking behaviour online was assessed, with the results indicating that those who engaged in increased faking behaviours had lower self-esteem levels. Further research identified low self-esteem as the precursor to altered image sharing and the need for peer approval. Chua and Chang (2016) conducted qualitative in-depth interviews with 24 Asian females evaluating the need for approval on image sharing. Findings suggest the sharing of edited images was reflected in a need for peer approval.

Low self-esteem is also correlated with cyberbullying victimisation. Established through a quantitative research piece involving 90 participants aged between 16-18 years, utilising four scales assessing cyber bullying, self-esteem, loneliness and empathy. The greatest correlation and reports of being a victim of cyberbullying was self-esteem. Empathy had the highest correlation of cyberbullying perpetration, as empathy decreased the likelihood of cyberbullying perpetration increased (Brewer & Kerslake, 2015).

Primack et al. (2017) conducted research into anxiety and depression relating to social media use. In a quantitative study with 1,787 young American adults aged between 19-32 years, the researchers compared anxiety and depression levels in individuals who access 0-2 social networking sites compared to those accessing 7-11 social networking sites. It was found that the more social media platforms an individual uses, the higher their anxiety levels. This would correlate with the amount of time spent using social media as more time would be required to access multiple platforms. However, Primack et al. (2017) specified time spent using social media being a factor in anxiety levels was unclear, however research indicated there was a credible reason to caution those with depression regarding the use of social media. A meta-analysis of 77 studies on depression and 18 studies on anxiety found anxiety levels to be a predictor of self-esteem levels. It appears the two are inter-related, high self-esteem levels resulted in low anxiety levels and vice versa (Sowislo & Orth, 2013).

1.5 Age, gender and socio-economic factors

As previous research has failed to determine the age self-esteem is malleable (University of Washington, 2015), the current study aims to determine the age group most effected by social media use on self-esteem levels, if at all. In recent years Generation X, have increased their social media consumption, spending only 48 minutes less daily than Generation Y. Media consumption for Generation X has also moved to a more smartphone based access

and a move away from tablets and PC, this increases the likelihood of interaction. Gen X are more likely to engage via Facebook with 81% of social media users having a Facebook account compared to 46% with an Instagram profile (Mander & Valentine, 2018). Also using demographic questions, we aim to establish if there are any protective factors in an individual's socio-economic status and self-esteem levels. Research has shown correlation to poorer socio-economic backgrounds and depressive symptoms assessed across 23 countries with 17,348 university student participants (Steptoe, Ardel, Tsuda, & Tanaka, 2007). Vogel et al. (2014) has previously identified socio-economic status impacting self-esteem as a limitation in their research.

In recent years, accessibility to mobile devices and social media has become widespread across all income classes. Historically, it was higher income households who accessed social media as there was a significant monetary cost to buying and maintaining a smartphone in terms of internet and the cost of the device itself (Perrin, 2015). The cost of devices has significantly decreased and internet access has also become more widespread with most restaurants and shopping malls offering free Wi-Fi. For this reason a deprivation index will be used to ascertain socio-economic variables in the current study by comparing locations (Haase & Pratschke, 2017).

The deprivation index is comprised of information relating to socio-economic values in all areas across the island of Ireland. The index considers absolute and relative deprivation scores per area and is reported on the topics listed below (Haase & Pratschke, 2017):

- Total population and 5 year population change
- Age dependency and lone-parent rates
- Primary education and third level education comparisons
- Percentage of professionals versus percentage of semi/unskilled

- Unemployment rates
- Housing (rental types: Local authority versus private rental).

1.6 Aims

As previous studies have all provided evidence that there are factors relating to self-esteem and anxiety, the current study aims to explore if social media impacts on both of these variables. A secondary aim of this research is to ascertain if there would be any benefit in developing a baseline of self-esteem levels while establishing social media accounts. As Primack et al. (2017) established potential value in providing caution to those with a diagnosis of depression, utilising a similar rationale, the current study aims to address a gap in the current literature for establishing baseline assessments for self-esteem upon joining social networking sites. Individuals with low self-esteem may also benefit from a similar caution. Leading cyber psychologist Mary Aiken (2016, p.303) has stated “the future sense of self will be fractured across dozens of social-networking platforms”, it is for this reason we need to understand the impact and potential protective factors for one’s self-esteem.

A comparison will be made between age groups ranging of 18-34 years and 35 years and upwards relating to extended social media interaction times, self-esteem and anxiety. A Gender and socio-economic status comparison will also be investigated in relation to the same variables to establish potential relationships or protective factors. Overall the results of the current study should contribute to the previous body of research in the field of self-esteem, anxiety, and social media use. The information gained throughout the study may be useful to inform clinical interventions or potential preventions relating to gender and demographics across all age groups in multiple locations.

1.7 Hypotheses

The purpose of conducting this research is set out in the following hypotheses:

Hypothesis 1 (H1)

Extended social media interaction times will have a negative impact on self-esteem levels in females more than males.

Hypothesis 2 (H2)

Extended social media use will negatively affect self-esteem levels in the 18-34year olds compared to the 35-65 year olds.

Hypothesis 3 (H3)

Socio-economic status will effect self-esteem levels across both age groups.

Hypothesis 4 (H4)

Extended social media use will effect anxiety levels across both age groups.

2. Methodology

2.1 Participants

The target population for the current research study was males and females ranging in age from 18years and upwards who engage in social media use. Initially the participants were a convenience sample obtained via shared links across social media platforms, Facebook and Instagram. As a result of shares across social media platforms, a snowball effect increased the participant population. Participation in the survey was voluntary and consent tick box selection was required by participants prior to commencing the questionnaire. The aim of the questionnaire was to establish any potential links between social media usage, self-esteem and anxiety across different age groups. The participants were grouped in ages ranging from 18-34years (n=129) and 35-65years (n=84), groups contained both males (n=39) and females (n=177). Ethical approval was granted by Dublin Business School Psychology research ethics committee for the current study, and the Code of Professional Ethics (Psychological Society of Ireland, 2011) were adhered to throughout the data collection process. No gratuities or incentives were offered in lieu of participants completing the survey. The collected sample included two hundred and sixteen participants who met the inclusion criteria. The participants were grouped in ages ranging from 18-34years (59.7%), and 35-65years (38.9%).

Inclusion criteria

Males and females over 18years who engage in social media use.

Exclusion criteria

Males and females under 18years of age who didn't engage in social media use. Those who refused to consent.

2.2 Design

The current study employed a quantitative questionnaire to test the hypotheses. A correlation design with a convenience sample which escalated to a snowball sample was utilised to investigate the effect of social media usage on self-esteem levels and anxiety, comparing age groups, gender and socio-economic status.

2.3 Materials

A questionnaire composed on google forms requiring the participant to complete demographic questions; age group, gender, and geographical location and three further Likert style questionnaires to assess social media use, self-esteem and anxiety levels.

The Bergen Social Media addiction Scale (BSMAS)

The Bergen social media addiction scale (Andreassen, Pallesen, & Griffiths, 2017) is a very recent assessment of internet usage created in 2017. The scale itself has its origins in the Bergen Facebook addiction scale, but as social media platforms developed further it was necessary to generalize the scale across social media as a whole rather than a specific platform. BSMAS will be employed to assess the level of frequency of interactions with social media. The BSMAS is a six-question survey with Likert scale answers. The type of questions asked are “*How often in the past year have you felt the urge to use social media more and more*” or “*How often in the past year have you tried to cut down on the use of social media without success?*”. The Likert type answers require the participant to select one of five options: very rarely (1), rarely (2), sometimes (3), often (4) and very often (5). The scale is then totalled to reveal a level of social media use over the previous 12 months, the higher the score the greater the addiction. Cronbachs α 0.88.

The Social Anxiety Scale of Social Media Users

Social anxiety scale of social media users (SAS-SMU) (Alkis, Kadirhan, & Sat, 2017) contains four subscales to assess anxiety levels in relation to social media, the four subscales assess shared content anxiety, privacy concern anxiety, interaction anxiety, and self-evaluation anxiety. Each of the subscales can be used separately to establish various anxieties. The SAS-SMU will be used to determine anxiety levels across the population. For the purpose of the current study, two of the subscales will be employed. One subscale assesses Interaction Anxiety, this subscale contains six statements such as “*I feel uneasy making new friends*” or “*I am afraid of interacting with others*”. The second subscale assesses Self-evaluation Anxiety, which contains three statements such as “*I feel anxious about making a negative impression on people*”. The items are answered on a 5 point Likert scale of 1: Never, 2: Rarely, 3: Sometimes, 4: Often, 5: Always. The scores are totalled to reveal anxiety scores relating to each subscale, the higher the score the greater the anxiety levels. Cronbachs α .943 and Cronbachs α .903, respectively.

Rosenberg self-esteem scale (1965)

Rosenberg Self-esteem Scale (RSES) (Rosenberg, 1965) will be used in conjunction with the BSMAS and the SAS_SMU to ascertain varying levels of self-esteem across the sample. The Rosenberg self-esteem scale is one of the most widely used assessments of self-esteem. As previously mentioned self-esteem is established on the basis of two components, belonging and mastery. The scale was initially developed in 1965 and is a self-rapport assessment of self-esteem. The scale itself comprises of 10 items answered in a Likert scale varying from strongly agree (1) to strongly disagree(4) (items 1,3,4,7,10), 5 of the items are reverse scored(items 2,5,6,8,9). The type of statements suggested is “*I feel that I have a number of good qualities*” or “*I wish I could have more respect for myself*”. Items are totalled to reveal

high, moderate or low self-esteem levels. There is high reliability ranging from 0.77 to 0.88 for internal consistency and 0.82 to 0.85 for test-retest reliability.

2.4 Procedure

To obtain the sample used in the current study a link to a survey style questionnaire was shared across social media platforms, Facebook and Instagram. A social media ‘influencer’ shared the link to the survey through Instagram stories which resulted in an increased response. The participant clicked the link which brought them to an external site, google forms where the survey was located. Information regarding the nature of the study was provided to the participant, the time frame to complete being an average of 5 minutes and a tick box for consent was selected for the survey to commence. As the data collection was anonymous, the right to withdraw was not available, this information was provided prior to consent. The only mandatory selection was for the consent tick box. Participants had the option to skip any and all questions if they so choose. Participants were requested to answer three demographic questions and four survey style questions. The instructions given at the beginning of each survey set instructed the participant to select the most appropriate response to the statement. On completion of the survey, information was provided for local services on screen in a debrief sheet, had any of the participants been affected by any of the questions asked. Participants were thanked for their contribution, when the survey had reached its desired participant number, the survey was closed and a thank you message was displayed on screen.

Ethical considerations

Prior to commencement of the study, ethical approval was sought and granted through Dublin Business School ethics committee. Research was conducted in accordance with Dublin Business School’s ethical guidelines for research with human participants. Participants were informed of the nature of the study and the information was collected and obtained

anonymously. Participants were informed that they would waive the right on consent as they information could not be removed due to the anonymous nature of the study. The option to leave a question blank was available as the only mandatory question was for consent. The possibility of an individual lying about their age to complete the survey was present as the study was shared across social media platforms. Both Facebook and Instagram have a digital age of consent being 13 years old, this risk was mitigated as an information sheet and de-brief sheet was provided on completion of the online survey. Information collected was stored on an encrypted USB and will be destroyed in one year.

3. Results

Analysis of the data collected was conducted using SPSS statistics program (version 25.0) in order to determine the significance of hypotheses.

Demographics

From the 216 respondents to the survey, 81.9% were female (n=177) and 18.1% were male (n=39) as displayed in Figure 1. Age ranges of participants were separated into groups with 59.7% (n=129) in the 18-34 years category, and 38.9% (n=84) in the 35-65 years category as displayed in Figure 2. Participants were further divided into socio-economic status groups labelled as follows; Affluent 12% (n=26), marginally advantaged 34.7% (n=75), marginally disadvantaged 31% (n=67) and disadvantaged 17.1% (n=37) which can be seen in Figure 3. Participants located across the country contributed to the research, they were assigned a socio-economic status on the basis of their selected location. The deprivation index was utilised to assign participants to each group.

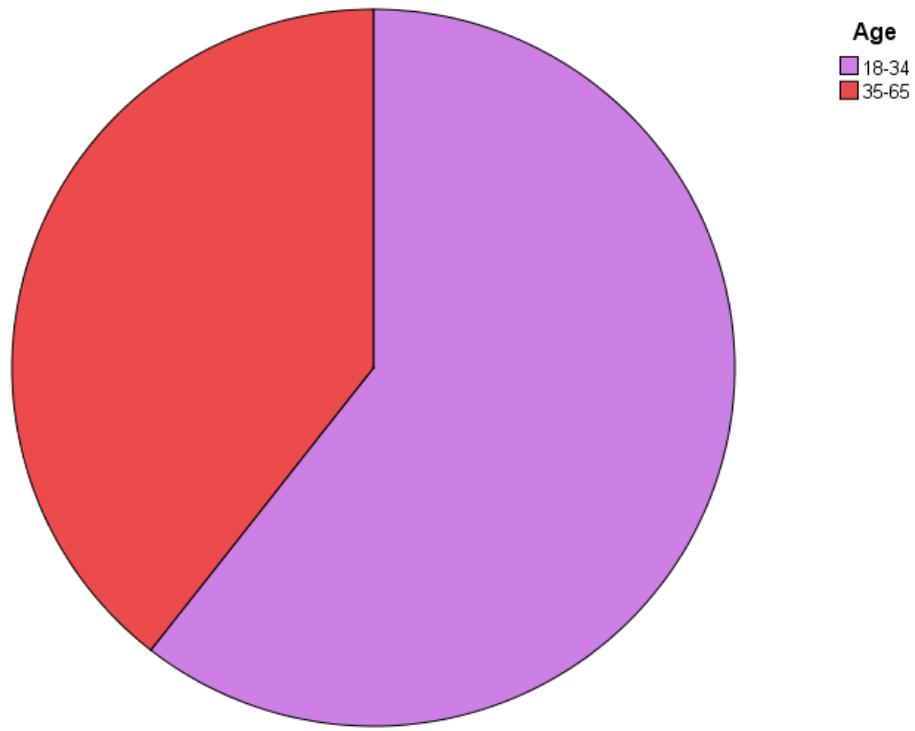


Figure 1. – Age of Participants

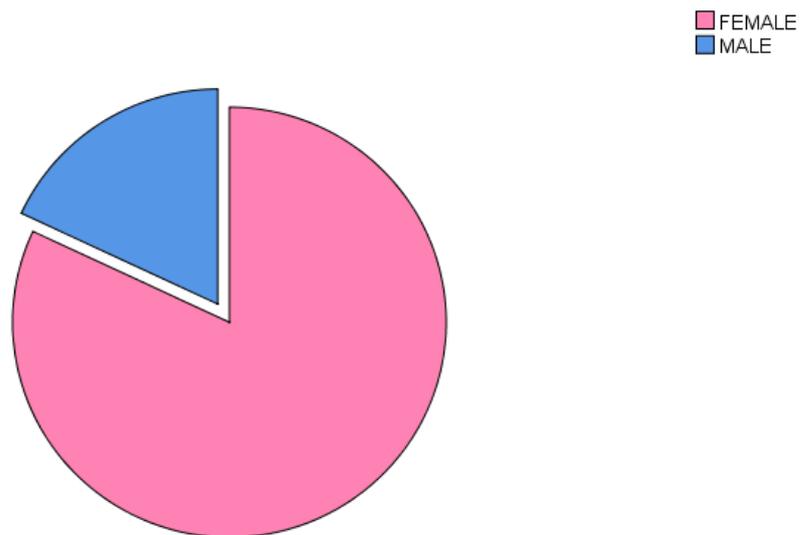


Figure 2. – Gender of Participants

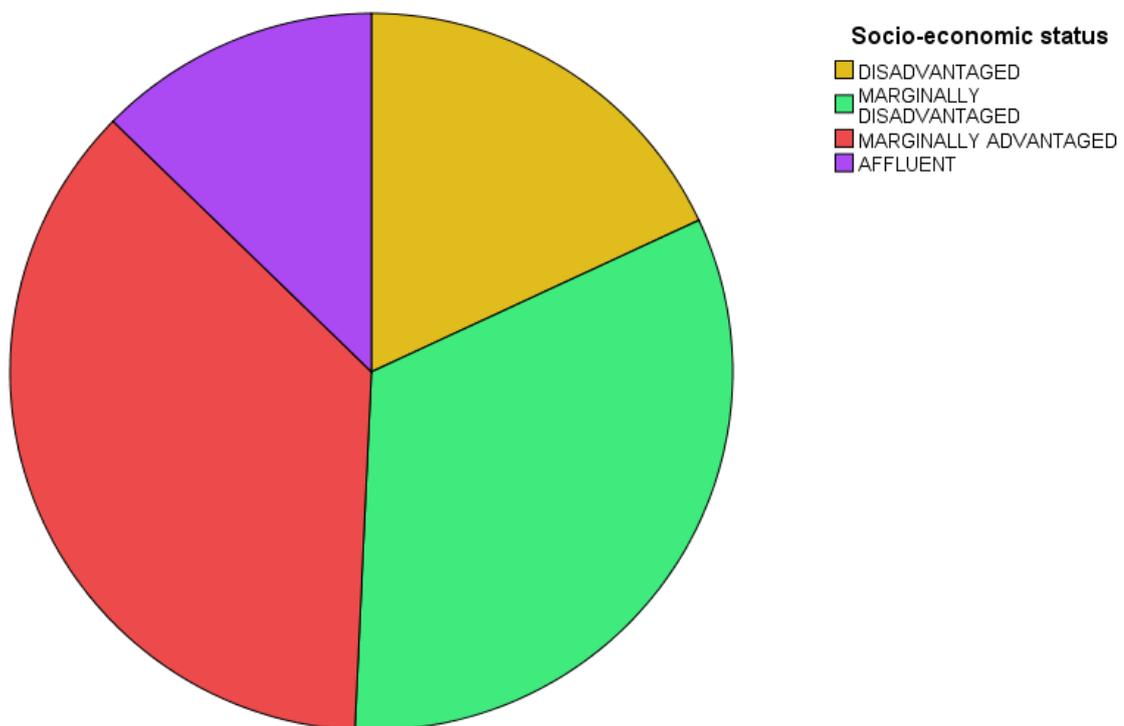


Figure 3- Socio-economic status of Participants

3.1 Descriptive statistics

Descriptive statistics display the mean scores or the averages for the psychological measures; Bergen Social Media Addiction Scale (BSMAS), Rosenberg Self-Esteem Scale (RSE), Social Anxiety Scale for Social Media Users- Interaction Anxiety (SAS-SMU IA) and Social Anxiety Scale for Social Media Users- Self-Evaluation Anxiety (SAS-SMU SEA). The standard deviation represents how far one could be wither side of the mean score. These scores are displayed in Table 1.

Table 1- *Descriptive statistics of Psychological Measures*

Variables	Mean	Standard Deviation
Bergen Social Media Addiction Scale	16.82	5.08
Rosenberg Self-Esteem Scale	25.45	1.83
Social anxiety scale for social media users-interaction anxiety	15.61	5.72
Social anxiety scale for social media users-self-evaluation anxiety	8.69	3.04

3.1 Inferential statistics

Hypothesis 1:

A Spearman's rho correlation found there was a medium negative significant relationship between extended social media use ($M=17.25$, $SD=5.09$) and self-esteem ($M=25.48$, $SD=1.86$) ($r(176)=-.3$, $p<.001$) in females. Therefore the null hypothesis is rejected. Comparing to males, a Spearman's rho correlation found that there was no significant association between extended social media use and self-esteem in males ($r(38)=-.3$, $p=.098$). This result provides support to previous research and the current hypothesis.

Hypothesis 2:

A Spearman's rho correlation found there was a medium negative significant relationship between extended social media use ($M=17.59$, $SD=4.86$) and self-esteem ($M=25.22$, $SD=1.85$) ($r(128)=-.29$, $p<.001$) in the 18-35 year old age groups. Therefore the null hypothesis is rejected. Comparing to the 35-65 year old age group, a Spearman's rho correlation found that there was no significant association between extended social media use and self-esteem ($r(82)=-.15$, $p=.175$). The current result provides support to the majority of research inclusive of the younger cohort.

Hypothesis 3:

A Kruskal-Wallis H test showed that different socio-economic status disadvantaged, marginally disadvantage, marginally advantaged and affluent groups self-esteem scores did not differ significantly ($X^2(3)=2.77$, $p=.427$) in the 18-35year old age group. The self-esteem scores of the 35-65year olds based on socio-economic status also did not differ significantly ($X^2(3)=2.40$, $p=.971$). The current hypothesis failed to support previous research relation to socio-economic status and self-esteem levels.

Hypothesis 4:

A Spearman's rho correlation found there was a moderate positive significant relationship between extended social media use ($M=17.59$, $SD=4.86$) and social media interaction anxiety ($M=16.85$, $SD=5.86$) ($r(128)=.455$, $p<.001$) in the 18-34 year old age group. Therefore the null hypothesis is rejected. This relationship can account for 20.7% of variation of scores. Correlations displayed in Table 2.

A Spearman's rho correlation found there was a moderate positive significant relationship between extended social media use ($M=15.89$, $SD=5.17$) and social media interaction anxiety ($M=13.85$, $SD=4.96$) ($r(83)=.301$, $p=.006$) in the 35-65 year old age group. Therefore the null hypothesis is rejected. Correlations displayed in Table 3.

A Spearman's rho correlation found there was a moderate positive significant relationship between extended social media use ($M=17.59$, $SD=4.86$) and social media self-evaluation anxiety ($M=9.27$, $SD=3.16$) ($r(128)=.444$, $p<.001$) in the 18-34 year old age group. Therefore the null hypothesis is rejected. This relationship can account for 17.71% of variation of scores. Correlations displayed in Table 2.

A Spearman's rho correlation found there was a moderate positive significant relationship between extended social media use ($M=15.89$, $SD=5.17$) and social media self-evaluation anxiety ($M=7.91$, $SD=2.661$) ($r(83)=.350$, $p=.001$) in the 35-65 year old age group. Therefore the null hypothesis is rejected. This relationship can account for 12.25% of variation of scores. Correlations displayed in Table 3.

The result in the current hypothesis supports previous research relating to anxiety levels in the younger cohort.

Table 2- *Correlation table 18-34years age group*

Variable	Bergan social media addiction scale	Social anxiety scale for social media users- interaction anxiety	Social anxiety scale for social media users- Self-evaluation anxiety
Bergan social media addiction scale			
Social anxiety scale for social media users- interaction anxiety	.000*		
Social anxiety scale for social media users- Self-evaluation anxiety	.000*	.000*	

Note p is significant at .05

Table 3- *Correlation table 35-65 years age group*

Variable	Bergan social media addiction scale	Social anxiety scale for social media users- interaction anxiety	Social anxiety scale for social media users- Self-evaluation anxiety
Bergan social media addiction scale			
Social anxiety scale for social media users- interaction anxiety	.006*		
Social anxiety scale for social media users- Self-evaluation anxiety	.001*	.000*	

Note p is significant at .05

4. Discussion

The purpose of the study was to analyse a possible negative relationship between self-esteem, anxiety levels and social media use across a two age groups of generational differences, an assumption as age being a protective factor. In detail, the analysis considered socio-economic status and gender differences to provide a greater insight into the effect extended social media use has on self-esteem and anxiety, thus expanding on the current body of research. The current study employed the Bergen social media addiction scale to assess internet use alongside the Rosenberg self-esteem scale and two sub scales from the Social anxiety scale for social media users to establish self-esteem levels, interaction anxiety and self-evaluation anxiety. Across the four hypothesis, one common variable used as a predictor was extended social media use.

Findings concluded that extended social media use effects self-esteem levels in females more than males. The same comparison of social media interaction and self-esteem levels was conducted, findings show the younger age group were more effected than the older cohort. No effect was observed in self-esteem levels across different socio-economic status. Extended social media use increased interaction anxiety in both the 18-34 year age group and the 35-65 year age group. Extended social media use increased self-evaluation anxiety in both the 18-34 year age groups and the 35-65 year age group.

4.1 Hypothesis 1- Self-esteem, Gender differences.

This hypothesis sought to establish a greater negative effect in self-esteem levels as social media interaction increased. The effect was assumed to be greater in females compared to males. The current study found that increased levels of social media interaction had a medium negative effect on self-esteem levels in females. There was no effect for the male cohort in this study. There are many reasons as to why this finding occurred.

Branden (1995) six pillar model of self-esteem proposed that all components are an active process, this fails to account for mindless surfing on social media sites. Also neglected in Branden's six pillar model is the individuals predisposing self-esteem levels. Comprehensive assessment using Branden's six pillars of self-esteem could be used with adults who are stable and settled in life, as there is no room for development across the lifespan in this model. Developmentally, females mature quicker than males which may have an impact on state and trait self-esteem levels across genders. Previous research and the current study, generally have a lower number of male participants. Gonzales and Hancock (2010) study contained 16 male participants out of a total 63 participants and they found no gender difference. This may be as the sample size was too small to show significance. Similar to the current study, the male cohort was n=39 compared to n=177 females. As the amount of females in the current study increased, this is a possibility of a representative sample of the female cohort. Additionally, the same effect may be seen had the male cohort reached similar numbers. The skewed numbers in gender of participants across studies fail to represent the male population accurately, and often gender comparisons are neglected.

4.2 Hypothesis 2- Self-Esteem and Age

This hypothesis sought to establish the effect of increased social media use on self-esteem comparing two generational groups, generation X (35-65 years) and generation Y (18-34 years). The effect was assumed to be greater in generation Y as previous research has established the effect in this cohort. The current study found a medium negative correlation between increased social media use and self-esteem levels in the 18-35 year olds compared to the 35-65 year age group. There are a number of reasons as to why this finding occurred.

Branden (1995) six pillar model of self-esteem has established that active participation is required in domains of self-esteem and ignored the developmental process through developing trait self-esteem levels. The older generation has had more time to develop a stable base of self-esteem without the intrusion of social media persistently on a daily basis. Previous research has proposed that trait self-esteem is developed as young as five years old (University of Washington, 2013), however the age of malleability has not been established. The majority of research in the area of social media effect on self-esteem have neglected the older cohort and predominantly performed research using student and adolescent populations (Steptoe et al. 2007; Primack et al., 2017; Vogel et al., 2014; Gonzales & Hancock, 2010; Brewer & Kerslake, 2015; Cochran & Lindsey, 2005; Valkenberg et al., 2006). Recent research has shown that older generations are quickly catching up on the amount of time spent using social media on a daily basis, however the assumption of age as a protective factor stems from the older cohort's youth. During the development of the older cohort's trait self-esteem the intrusive nature of social media and accessibility was not present in their lives. This could bolster the recommendation of baseline assessment while establishing social media accounts, further adding to the potential of longitudinal research on effect of social media interaction and changes in self-esteem levels across the lifespan.

4.3 Hypothesis 3 Social media, self-esteem and Socio-economic status

This hypothesis sought to establish the effect of increased social media use effecting self-esteem across differing socio-economic statuses. The current study found no difference across the four established socio-economic status groups. Socio-economic status has been established as a limitation throughout previous research, for this reason it was explored in the current study. There are a number of reason as to why this finding occurred.

Vogel et al. (2014) had established socio-economic status as a limitation in their research, however, their cohort was undergraduate students. This would give an assumption of middle class or as mentioned in the current study marginally affluent. Research indicated that individuals from poorer socio economic backgrounds were likely to suffer more with depressive symptoms (Steptoe et al., 2007) therefore, the same effect was sought in self-esteem levels. The current study sought to address population issues with a more representative sample, however no effect was found. Potentially more widespread accessibility to internet and the reduction of cost in mobile devices may have leveled the scope for difference in social media use across socio-economic statuses (Perrin, 2015). Previously the cost of a device and internet services would have only been available to those who were affluent with disposable income. Furthermore, the effect of upward comparison in terms of type of interaction is not evident in the current study across differing socioeconomic status. Previous research indicated upward comparison causing negative effect on self-esteem. Lower socioeconomic status should have an effect in this assumption, yet this effect was not evident in the current study. Some limitations in the nature of establishing socio-economic status should be addressed in future research, the current study assigned socioeconomic status on the basis of geographical location using a deprivation index. This and other measures should be utilised in conjunction to obtain a well-balanced opinion on one's socioeconomic status.

4.4 Hypothesis 4 Social media, interaction anxiety and self-evaluation anxiety.

This hypothesis sought to establish a positive relationship between extended social media use, interaction anxiety and self-evaluation anxiety. The assumption is increased anxiety levels in the 18-34 year age group when compared to the 35-65 year age group. The current study found that interaction anxiety and self-evaluation anxiety increased with extended social media use across both age groups. Discussed in detail below are some of the reasons why this finding occurred.

The current study assumed higher anxiety across the younger cohort as previous research had indicated that anxiety is a predictor for self-esteem (Sowislo & Orth, 2013). Findings in the current study have shown a correlation with self-esteem and the younger cohort, therefore the current hypothesis does not support previous research. If the current study was to support research the correlation of lower self-esteem levels should be evident across all age groups as anxiety has been shown to be a predictor. Both age groups have increased anxiety levels, yet only a positive correlation was made with the younger cohort and lowered self-esteem levels. This may be a result of previous research representing a younger population, the current study sought to establish age as a protective factor. Primack et al. (2017) conducted research with 19-32 year old, this cohort would have grown up with access to social media. Measures used to assess anxiety in the current study focused primarily on social media based anxiety, this may have caused the finding. Further research should measure for general anxiety as a predictor of lowered self-esteem levels alongside extended social media use. Inclusion of an older population in future research to build on the current body of literature in relation to social media use.

4.5 Strengths and limitations

The current study had a number of strengths, initially the accessibility of the questionnaire to the target audience. Recent research has established an increase in smartphone use in Generation X, reports show there is only a 48 minute difference in smartphone usage across Generation X and Generation Y (Mander & Valentine, 2018). This age range is included in the current study, promoting accessibility to a general population and a more representative sample. Secondly, the current study included a broad participant base as the majority of research in the area was inclusive of only college or undergraduate students (Steptoe et al., 2007; Primack et al., 2017; Vogel et al., 2014; Gonzales & Hancock, 2010; Brewer & Kerlake, 2015; Cochran & Lindsey, 2005; Valkenberg et al., 2006). With the exception of the exclusion of participants under 18 years, the current study adds to a limited research pool in which anxiety and self-esteem can potentially affect all ages who access social media.

Although the current study was beneficial in representing a population sample, some limitations were evident across the sample. There was significant difference in the gender, age and socio-economic split. The male participant base represented just 18.1% of the sample in comparison to 89.1% female response, therefore a reliable representation of that gender cannot be applied generally. In addition to gender difference, the age ranges were also moderately skewed. The dataset was divided into two age groups 18-34 years and 35-65 years. The older cohort was represented by 38.9% of the dataset compared to 59.7% of the younger generation. This may be a result of more time spent online by the younger generation leading to higher interaction levels on the chosen social media platforms. Furthermore, the socio-economic difference were also skewed with 17.1% labelled as disadvantaged, 31% marginally disadvantaged, 34.7% marginally affluent and 12% affluent. Potentially the dataset may also be skewed in comparing affluent with a marginally disadvantaged group. The socio-economic

status was assigned to the demographics using the deprivation index, this is not a total representation of an individual's socio economic status. Participants were asked to select where they live, this information was assessed using the deprivation index. While the information contained within the deprivation index is beneficial, alone, it is not a robust measure of an individual's socio-economic status.

4.6 Recommendations for future research

The current study has added to the debate on whether extended social media use has an effect on self-esteem and anxiety levels. As the results remain inconclusive it is recommended that more robust measures for individual variables be applied. The current study employed two subscales assessing social media related anxiety, this in itself suggests anxiety as a result of social media use. As previous research has suggested anxiety is a predictor of self-esteem levels (Sowislo & Orth, 2013), a more general anxiety assessment should be considered in determining anxiety separately to social media use. Primack et al. (2017) yielded consistent results with a large sample using the Patient Reported Outcomes Measurement Information System (PROMIS). The current study was limited in scope related in social media anxiety only.

Implications in the current studies measurement of socio-economic status should also be improved going forward. The current study assigned socio-economic status on the basis of geographical location, future research should include a more robust method of measurement including demographics, and potentially income and outgoings. Disposable income could also be considered as a measurement. Socio-economic status has be linked to anxiety and depression in previous research (Steptoe et al., 2007), however the current study could not support the opinion. Lastly, future research should explore a representative sample with balanced genders and age differences. The inclusion of the older age group should be replicated as the research pool for this cohort is limited.

4.7 Conclusion

Overall, the current study provided a mix of support for previous research and disagreed with some previous findings. While it has been widely researched the effect of extended social media use on self-esteem, failed to show significance in an older age group. Generally, extended social media use has provided an effect in self-esteem in particular with a younger cohort in the female population concurring with previous research. Support was shown in the 18-34 year age group bolstering previous studies. A Spearman's Rho correlation found a significant relationship with extended social media use and self-esteem in the 18-34 year olds but failed to produce the same result for the 35-65 year age group. Again, a Kruskal Wallis H test failed to yield a significant result in the impact of socio-economic status on self-esteem and extended social media use. Further support was applied to previous research in establishing gender difference and self-esteem levels. A Spearman's Rho correlation found a significant negative relationship in self-esteem levels and extended social media use in females but no significance with the male cohort. Lastly, a comparison was sought in anxiety levels and extended social media use. A Spearman's Rho correlation supported previous findings in elevated anxiety levels across both age groups relating to social media interaction anxiety and self-evaluation anxiety mitigating extended social media use.

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Appendices

Information sheet and consent form**Social Media Interaction: effects on self-esteem, comparing age groups, gender and socioeconomic status**

My name is Laura Farrell and I am conducting research in the Department of Psychology that explores social media effects on self-esteem comparing age groups, gender and socioeconomic status. This research is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact

Laura Jane Farrell, xxxxxxxx. My supervisor can be contacted at xxxxxxxx.

Thank you for taking the time to complete this survey.

I consent to taking part in this survey Yes/No

APPENDIX 2

Questionnaire

Please answer all questions

1. Are you ... (please tick appropriate answer)

18-24 years old 25-34 years old 35-44 years old 45-54 years old
55-64 years old 65 years +

2. Are You ... (please tick appropriate answer)

Male Female

3. Where do you live (please select from drop down box)

(insert drop down box here)

Instructions: Below you will find some questions about your relationship to and use of social media (Facebook, Twitter, Instagram etc).

Choose the response option for each question that best describes you.

How often during the last year have you...

	Very Rarely	Rarely	Sometimes	Often	Very Often
..spent a lot of time thinking about social media or planned use of social media?	<input type="checkbox"/>				
..felt an urge to use social media more and more?	<input type="checkbox"/>				
..used social media in order to forget about personal problems?	<input type="checkbox"/>				
..tried to cut down on the use of social media without success?	<input type="checkbox"/>				
..become restless or troubled if you have been prohibited from using social media?	<input type="checkbox"/>				
..used social media so much that it has had a negative impact on your job/studies?	<input type="checkbox"/>				

Scoring: The items are rated 1-5 from "very rarely" (1) to "very often" (5) and summed for an overall total (higher total indicating greater addictive behaviour around social media)

APPENDIX 5

Thank you for taking the time to complete this survey.

If any of the topics have affected you please contact Samaritans on Freephone 116 123 or text
087 260 9090

OR

You can visit yourmentalhealth.ie

If you would like to make any comments or complaints regarding this questionnaire please
contact xxxxxxxx