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Investigating the Relationship Between Social Media and Social Comparison on Body

Image; Gender Differences

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Abstract

The present study examined the relationship between social media engagement and social comparison tendencies on body image in young adults, while also exploring the gender differences within these variables. Research has shown that increased social networking site (SNS) usage and upward social comparison can aid in negative outcomes, including body dissatisfaction; it is suggested that these outcomes are graver for females, perhaps due to the voluminous research with a sole focus on this gender. The present study sought to expand upon these findings and strengthen them by investigating an age range that is most active on social media, young adults aged 18-29. A total of 67 participants completed questionnaires measuring their social media engagement, social comparison tendencies and body image. Findings from a multiple regression analysis revealed that unfavourable social comparison tendencies, but not social media use, was significantly predictive of negative body image. Follow up *t*-tests showed that females are significantly less satisfied with body image compared to males, and males compare themselves more favourably, significantly more than females. Implications for this study and best practices for measuring and researching body image are discussed.

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Introduction

Body image is a multi-faceted construct that is subjective to each individual person. Grogan (2007) stated that body image is a person's feelings surrounding the appearance of his/her body, referring to the manner in how one interprets those feelings. Physical attractiveness or beauty, as it pertains to body image, is strongly embedded in female stereotypes, such as the western ideal of a 'thin' figure (Nichter & Nichter, 1991; Thompson & Stice, 2001); an ideal that is highly portrayed in movies and magazines. Research findings consistently show that females have a higher tendency to desire a thin body type than males; and that females' own body image perception reflects this trend (Alipour, Farhangi, Dehghan, & Alipour, 2015). Related to this, people might also have a distorted body image compared to others who attain body satisfaction (Alipour et al., 2015). With the increasing presence of digital and social media in society, it is important to determine the impact that social networking sites (SNS) such as Facebook and Instagram have on body image concerns. Findings show that appearance-focused activity on SNS, rather than general Instagram or Facebook use, can elicit more body image concerns and correlate to thin-ideal internalisation (Alipour et al.,2015; Cohen, Newton-John & Slater, 2017). Body image satisfaction and the impact that engagement on SNS has on body image is a pertinent area of investigation. Adolescents and young adults may be particularly susceptible to concerning behaviours and poor mental health outcomes related to negative body image (Wiseman, Sunday, & Becker, 2005); and are also the demographic that are most active on social media (Duggan & Brenner, 2015). Comprehensive research is therefore required on the variables associated with body image and any effects that SNS might have. The aim of this review is to examine the relationship that social media sites and consequently social comparison tendencies have on perceived body image, while also investigating the gender differences within this.

Males and females tend to differ drastically within any given context, important gender differences have been found in prior research investigating body image concerns. One study explored male and female perceptions of a desirable body shape with regards to their current physique, ideal shape and lastly what they constitute as being most attractive to the opposite sex. They measured this by utilizing a set of nine figure drawings arranged from very thin to very heavy. They reported a disparity between male and female responses, as males considered their current, attractive and ideal physique to be essentially identical. Whereas for females, their current shape was heavier than what they perceived the most attractive shape to be, and this was also heavier than their own personal ideal figure (Fallon & Rozin, 1985). This gives insight into how women, although they themselves realize what type of body is considered more attractive to the opposite sex, still feel pressure to be even thinner, yet the pressure for men is not apparent in more recent studies (Humphreys, & Paxton, 2004). At that time, this was thought to be due to the persistent 'thin ideal' cultural expectations that was highly portrayed in Playboy centrefolds and Miss America Pageant contestants from the years 1959 to 1978 (Garner, Garfinkel, Schwartz, & Thompson, 1980). These findings may be still pertinent today as pageants continue to exist and 'thin-ideal' is very much relevant and this can be seen most evidently throughout the fashion industry as there is clear predominance of thin models, and furthermore can be an important factor to succeed in this career (Volonté, 2019).

With regards to weight related body image, females have been found to have a higher tendency to hold a perception of their body image as being heavier than it is, while males tend to view themselves as thinner than they are (Gray, 1977). Research has shown that there are many contributing factors to explaining male-female differences within body image perception, one being that women are more likely than men to restrict their food intake and diet more regularly (Gray, 1977), and to perceive themselves as being fat

(Huenemann, Shapiro, Hampton, & Mitchell, 1966). Research by Waldron (1983) also showed that women who felt overweight were more likely to consult with a medical practitioner than a male who was overweight. However, it has been noted in more recent studies that there has been a generational shift in social norms regarding body image ideals. Numerous studies found that overweight individuals have expressed body image satisfaction and were less likely to self-classify as being overweight (Burke, Heiland, & Nadler, 2010; Maximova et al., 2008; Rand, & Resnick, 2000). This is perhaps due to the perception of weight gain being more common and therefore less concerning than it may have been in the 1900s, meaning it is not as stigmatized as a result. However, as there is vast evidence showing a relationship between poor mental health and body dissatisfaction, it is important to explore how body image ideals have advanced and how they impact mental health outcomes differently for males and females.

Males are underrepresented in this field of research regarding body image, this can be seen from the countless studies with a sole focus on investigating females. Moreover, there is a lack of research equity between the two genders regarding the scales that are available for measuring body image. A significant portion of internally reliable and validated body image scales are solely female focused and cannot be used on males, such as the Body Shape Questionnaire (BSQ-34) (Cooper, Taylor, Cooper, & Fairbum, 1987). In contrast, the Body image state scale developed by Cash, Fleming, Alindogan, Steadman, & Whitehead (2002) is suitable for both sexes and is not context led but instead how the participant is feeling in that exact moment after completing prior scales, which may impact their subsequent choices. Most body image scales are extremely context based and focused, therefore by utilizing an 'in the current moment' body scale could show the immediate impact other predictor variables have on body image.

Research suggests that there is a relationship between muscularity and self-esteem, body image and depression in males (Olivardia, Pope Jr, Borowiecki III, & Cohane, 2004). Males have been found to hold a preference for muscular build as this is what they identify with. This is strongly influenced by the 'muscular' gender stereotypes being exposed to them as they develop, according to gender intensification hypothesis (Sheldrick, 1984). Men are consistently being exposed to images of strong male role models, which may cultivate a desire for a muscular physique they witness in the likes of superhero movies and action man figures throughout their lives, this could aid in body dissatisfaction when there is a discrepancy between their ideal self and actual self. More recent research has shown that young males are more likely than middle-aged/older men to comparison while viewing an idealised depiction of a muscular male physique seen in music television (Mulgrew & Cragg, 2017). This study highlights how young men are more susceptible to social comparison regarding body image. Research should therefore target this age range when studying body image as it should account for a greater portion of the population and findings could be utilized to spread awareness of the impact these factors have on young adults' body image. Research has shown that there is a relationship between social comparison and body image perception in males. Males are found to be more susceptible to developing a negative body image perception if exposed to muscular images of men on image based SNS such as Instagram (Peng, Wu, Chen & Atkin, 2019). This can lead to a decreased motivation in achieving their desired physique through exercise as a result of their hindered body image and feelings of inadequacy felt from Instagram exposure. This is known as upward social comparison, where an individual compares their life to another's they perceive as better or more worthy than themselves (Festinger, 1954; Garcia, Tor, & Gonzalez, 2006). Interestingly, females are more likely to describe their appearance more negatively than males and were also more susceptible to making upward social

comparisons about their figure with regards to unrealistic standards of beauty portrayed by models, compared to men (Strahan, Wilson, Cressman, & Buote, 2006). There is also downward comparison where people compare themselves and their life's to other's they believe less fortunate than themselves (Wills, 1981).

Social comparison theory (Festinger, 1954) proposes that people have an innate tendency to evaluate their personal life and career progress, in comparison to how other acquaintances, friends and strangers such as public figures are advancing in life at the same time frame. Multiple studies have shown that consistently comparing oneself to others can aid in the development of negative body image in women (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015; Van den Berg, Thompson, Obremski-Brandon, & Coovert, 2002; Vartanian & Dey, 2013). One particular study by Furnham, Badmin, & Sneade (2002) explored sociocultural and social comparison theories. They found strong support for social comparison theory whereby they measured adolescents' social comparison tendencies to universalistic targets such as models. Findings showed that both males and females who engaged in social comparison had lower self- esteem regarding their physical appearance and use of pathogenic weight control practices, among others. The implementation of steroids for males to increase muscle mass and the prediction of body dissatisfaction in females. Prior research on social comparison theory has implied a strong association between a person's tendency to compare their appearance to others and negative outcomes (Halliwell & Harvey, 2006; Keery, Van den Berg, & Thompson, 2004). Recent research has found that active social media engagement (ASME) is associated with negative body image in females (Hogue, & Mills, 2019). Interestingly though, this outcome is restricted to upward comparison to attractive peers (Festinger, 1954). The effects of ASME with family members are not the same. This suggests that depending on the relationship status and active (commenting and liking posts and photos) versus passive

engagement on SNS contributes as to whether there is a negative effect on body image. Young adult women tend to make upward appearance comparisons to peers, but not family on social media (Fardouly, & Vartanian, 2015; Fardouly, Diedrichs, Vartanian, & Halliwell, 2015). The tendency towards social comparison has increased in the last few decades with the advances in technology and SNSs, and therefore should be prioritized as an important factor when investigating body image concerns.

A vast majority of prior literature has investigated body image with regards to mass media effects (Derenne, & Beresin, 2006; Posavac, Posavac, & Weigel, 2001). In recent years there has been an increasing interest in exploring the mass media subcomponent that is social media, and a large quantity of research primarily focused on a population of adolescents (Kostanski, & Gullone, 1998; Tiggemann, & Slater, 2014). This is perhaps because adolescents have been shown to be more susceptible to negative body image than others (Meier, & Gray, 2014; Morrison, Kalin, & Morrison, 2004); and this has a direct link to eating disorders and depression (Keery et al., 2004; Stice, Hayward, Cameron, Killen, & Taylor, 2000). Instagram use in particular, has been shown to have detrimental effects on body image concerns. One study examined the relationship between overall Instagram usage and following fitspiration images, with body image concerns and self-objectification among women aged 18-25 from the United States. Following a "fitspiration" page (this is a word amalgamation of fitness and inspiration) is essentially viewing and following pages that post fitness related content and inspirational/ motivational posts, typically regarding the gym and their physique. Results showed that Instagram may negatively influence women's body image and dissatisfaction as findings suggest that more frequent Instagram use and following fitspiration pages were associated with thin-ideal internalization and self-objectification (Boepple, & Thompson, 2016; Fardouly, Willburger & Vartanian, 2018). However, this association was mediated by

internalization and overall appearance comparison tendencies (Fardouly et al., 2018). These findings are concerning due to the voluminous literature implying that body dissatisfaction and self-objectification to be highly predictive of negative mental health outcomes such as depression and disordered eating (Dittmar, 2009; Grabe, Ward, & Hyde, 2008; Peat & Muehlenkamp, 2011; Stice, 2002).

Self-taken photos, commonly referred to as "selfies" are typically found scattered across social media platforms as a form of self-expression. Mills, Musto, Williams and Tiggemann (2018) investigated whether capturing and posting selfies elicits adverse responses or altered body image perception and mood in young females. They found that the women who uploaded selfies experienced feelings of inadequacy and reported a decline in their own body image perception/physical attractiveness. This study highlights how social media can cause adverse psychological feelings in females. This implies that women aspire to achieve high status to the extent that posting images on social media makes them compare themselves to 'Influencers' and leaves them feeling anxious, disheartened and inadequate, due to not being able to attain this unrealistic standard of beauty. Interestingly, evidence suggests that body image ideals have shifted in recent years from a thin ideal to now a more toned 'fit' body ideal. A study by Watson, Murnen and College (2019) exposed women to images of either thin, athletic, or hyper-muscular physiques, and findings showed that the athletic images evoked considerably more body dissatisfaction and social comparison than the other images. Additionally, they found a change in the ideal male body type from a bodybuilder type physique to now a lean athletic build (Watson et al., 2019). Therefore, it is imperative that more research is done on body image, particularly investigating social media and social comparison on body image perception due to the advancements in what is viewed as the idealised body type. Instagram also enables this strive for unattainable perfection by providing editing tools and

filters that enhance photos before posting. This inadvertently means that Instagram feeds are littered with enhanced photos that align with societal beauty ideals and therefore may result in feelings of inadequacy due to upward social comparison. This may therefore contribute to a poorer body image and greater body dissatisfaction (Myers & Crowther, 2009). Despite some research on SNSs there is still a lack of informative data on the impact of social comparison through the newer, emerging in popularity image based social media platforms such as Instagram and Snapchat on males and females.

Overview of the Findings

Prior research has been predominantly focused on mass media, such as television, magazines, music television and tv shows, as the key factor in the development of a negative body image (Morrison et al., 2004). Research is therefore required to focus on subcomponents of mass media by investigating body image and social media. Social comparison tendencies have not been studied as vastly with males compared to females, therefore there is a need for research comparing how male and females differ, or not, in their own social comparison tendencies and how this affects their body image perception. In addition, there is a gap in the literature to extensively investigate what impacts young adults' (male and female) body image perception. Due to the vast array of different body types and physical characteristics of males that are depicted in the media and are still viewed as attractive by females (Humphreys, & Paxton, 2004), the pressure and tendency for upward social comparison may not be as severe for males as it is for females.

The Current Study

The aim of the current study therefore is to examine the complex relationship between whether social media engagement and a tendency towards social comparison, can aid in the development in either a positive or negative body image, while also investigating the gender differences among these factors. The sample age of 18-29 was selected due to

this age range being most active on social media (Cohen et al, 2017; Duggan & Brenner, 2015); and additionally, more susceptible to negative health outcomes associated with body image dissatisfaction (Peat & Muehlenkamp, 2011; Stice, 2002; Tiggemann & Lynch, 2001). This study is important as it will help to identify the impact SNSs and social comparison tendencies can have on body image, as body image has been linked to several negative health outcomes such as eating disorders, body dysmorphia, depression and anxiety (Keery et al., 2004; Stice et al., 2000). Specifically, the research questions are is there a relationship between social media, social comparison and body image, can social media usage and social comparison tendencies predict body image perception in young adults and lastly, do males and females differ in social media engagement, social comparison tendencies and body image perception. We hypothesise, based on prior literature; that there will be a relationship between the predictor variables (PVs) social media and social comparison, and the criterion variable (CV) body image. Hypothesis two is that high social media engagement and negative/unfavourable social comparison tendencies will predict body image. Our final hypothesis three is that females will score higher in negative body image and unfavourable social comparison, compared to males.

Methodology

Participants

The sample for the current study consisted of 67 (Males: $n = 29$; Females: $n = 38$) young adults. This was calculated using Tabachnick and Fidell (2013) formula for calculating sample size for multiple regression analysis which is as follows: ($N > 50 + 8m$) n = number of participants and m = number of PVs, therefore my minimum sample size had to be $n = 66$. Participants came from different counties in Ireland (Wicklow, Dublin, Waterford, Kilkenny and Kildare) and there were a minority of participants from other countries including England, Canada and Cambodia. Of the participants recruited; 31 (46.3%) were students, 20 (29.9%) worked in a bar/restaurant, other occupations included trade 5 (7.5%), business/bank 6 (9%), retail 7 (10.4%). Participants ranged in age from 18 to 28 years, with an average age of 23 ($SD = 2.47$). The study implemented a non-probability, convenience sampling strategy to recruit participants, as participants were recruited online and relied heavily on their willingness to take part in the survey.

Materials

The study questionnaire was comprised of demographic questions and three distinct scales amalgamated using Google Forms, a survey builder. The demographic questions were administered to gain a general profile of the participants in this study, questions regarding their gender, age, residing area and occupation were included for this section.

Social Media Engagement Questionnaire (SMEQ): ($\alpha = .82$ to $.89$) developed by Przybylski, Murayama, DeHaan, & Gladwell (2013) is a 5-item scale designed to measure an individuals' extent of social media use, each item is measured using 7 response anchors ranging from $0 = $ *Not one day* to $7 = $ *Every day*. Each score can be computed by adding up the answers to all five items. Higher scores indicate more time spent on social media

platforms. The highest possible score is 35 and the lowest is 0 (see Appendix B). The Cronbach's alpha was (α = .84) which indicates a high level of internal consistency for the scale with this specific sample. In addition to this 3 more questions regarding social media use were included, which were as follows; what social media platforms do participants have an active account with, which of these do they use on a daily basis and the amount of hours they spend on social media platforms every day.

Social Comparison Scale (SCS); Cronbach Alpha: .91 and .90 (Allan & Gilbert, 1995). The SCS measures an individual's self-perceptions and covers judgements concerned with how a person feels in comparison to others (regarding social rank, social standing and attractiveness) and how they perceive they 'fit' in with others in society. This scale consists of 11 bipolar constructs/ items that can go from, for example, 1= *Incompetent* to 10 = *More competent*. Participants are required to make a general comparison of themselves in relation to other people and to rate themselves along a ten-point scale from 1 to 10, where 3 would be considered as feeling shorter than others and 7 somewhat taller and a mark of 5 would be about average. Scoring is done by adding up all items and low scores indicate feelings of inferiority and general low rank self-perceptions (see Appendix C for full details). The Cronbach's alpha for the current sample was (α = .89), this suggests a high level of internal consistency for this scale.

Body Image State Scale (BISS's internal consistency was .77 for women and .72 for men) (Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002). The BISS is a 6-item scale with a 9-point dimensional response format that goes from, for example, extremely satisfied to extremely dissatisfied '*with my weight*', with 3 of the items going from positive-to-negative which meant that the scores were reversed. The questions reversed scored were as follows: question 2 "right now I feel… *extremely satisfied with my body size and shape..*", question 4 " right now I feel… *extremely physically attractive*",

and question 6 "right now I feel that I look… *a great deal worse than the average person looks".* This scale is scored by calculating the average of the 6-items after reverse scoring the positive to negative items (see Appendix D). The Cronbach's alpha for this scale was ($\alpha = .88$), this indicates a high level of internal consistency with the current sample.

Design

The study implemented an experimental cross-sectional research design and adopted a quantitative approach. There were 2 predictor variables (PVs) which were as follows: social media engagement and social comparison tendencies. The Criterion variable (CV) was body image perception. For hypothesis three, a between-subjects design was implemented as different groups/genders (male and female) were compared on their levels of social media engagement, social comparison tendencies and body image perception.

Procedure

Majority of study participants were recruited through social media platforms. The questionnaire was uploaded to Snapchat, Instagram and Facebook and sent into group chats. Some were recruited by mutual friends whereby the questionnaire link was directly sent to them by email. Consent was obtained through a consent form/information sheet that was provided directly before the questionnaire itself (see appendix E), were the participant was given a brief description of the study and its aims along with an estimated time frame that the study will take to complete, which was roughly 10-15 minutes. Participants were able to withdraw from the study at any point in the survey, without penalty. This was clearly stated in the consent form before the survey. Participants were then asked to click the "yes" box consenting that they have read the for and understand the terms and agree to work collaboratively. They also had to click "yes" confirming that they were between the ages of 18 and 29. Once this had been established, they were able to proceed to the

questionnaire. Participants were then required to complete the social media engagement

questionnaire, followed by the social comparison scale and lastly the body image states

scale. Once they had completed these 3 sections in the questionnaire there was a debrief

form where my supervisors and my own contact details were provided along with helpline

numbers and a statement encouraging participants to speak out and seek help if the

questionnaire caused any distress to the individual (see Appendix F for full details).

Ethical considerations

All data was collected within accordance with the ethical guidelines of NCI. The

risks and benefits of partaking in the study were clearly outlined and there was no

incentive to take part, and all participants provided informed consent. Participants were

informed that if the study receives a grade of 2.1 or above, it will be published in the NCI

library for all students, lecturers and visitors alike with access to the library to view it. This

was communicated to all participants by explicitly stating this on the debriefing form.

Helplines, such as niteline and the samaritans contact details were provided in the debrief

form for those that felt distress as a result of taking part in the study (see Appendices E &

F).

Results

Descriptive Statistics

The current data is taken from a sample of 67 participants ($n = 67$). This consisted of 56.7% females ($n = 38$) and 43.3% males ($n = 29$). A large proportion of the sample 44.8% ($n = 30$) lived in Co. Wicklow; 14.95% ($n = 10$) were from Co. Dublin, other counties mentioned were Kilkenny, Waterford and Kildare. A total of 13.4% ($n = 9$) of participants were living in the UK, along with Canada and Cambodia. 16.4% ($n = 11$) selected other. A total of 46.3% of participants were students ($n = 31$). Other occupation included: 29.9% bar/restaurant ($n = 20$), 10.4% retail ($n = 7$), 9% business/ bank ($n = 6$).

There are three continuous variables including social comparison, social media and body image. Mean, standard deviation, minimum and maximum scores are displayed in Table 1 below.

Table 1

Descriptive statistics and reliability of all continuous variables

	Mean	Median	SD	Skewness	Kurtosis	Minimum	Maximum
Social media	22.49	24	9.82	-.494	-.852	.00	35
Social comparison	53.76	52	15.14	.371	.297	23	100
Body image	26.48	26	10.44	.207	-.255	6	54
Age	22.97	22	2.47	.678	-.528	18	28

Inferential statistics

Preliminary analyses were performed to ensure no violation of the assumptions of normality; social media engagement was non normally distributed. Therefore, a non-parametric Spearman correlation coefficient was computed instead of Pearson correlation

coefficient to assess the relationship between social media engagement, social comparison and body image. There was a significant, strong, positive correlation between the two variables social comparison and body image ($r = .579$, $n = 67$, $p < .01$). This indicates that the two variables share approximately 34% of variance in common. Results indicate that higher levels of unfavourable/ negative social comparison tendencies are associated with higher levels of body dissatisfaction (negative body image perception). There was a non-significant correlation between the other variable (social media) and body image, see table 2 below.

Table 2

Correlations between all continuous variables.

Variables	1	2	3
1. Social Media	1		
2. Social Comparison	-.07	1	
3. Body Image	-.13	.59**	1

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

A standard multiple regression analysis was performed to determine how well body image levels could be explained by the two predictor variables which include social media and social comparison. Since no *a priori* hypotheses had been made to determine the order of entry of the predictor variables, a direct method was used for the analysis. The results from table 3 show that the model explained 35.4% of variance in body image perception ($F (2, 64) = 17.57$, $p < .001$). Out of the two predictor variables, social comparison was found to uniquely predict body image to a statistically significant level ($\beta = .58$, $p < .001$) (see table 3 below for full details).

Table 3

Standard multiple regression model predicting body image total score

	R	R²	B	B	SE	P
Model	.595	.354				.96
Social Media			-.117	-.125	.107	.248
Social Comparison			.577***	.398	.069	.000

Note. R^2 = R-squared; β = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; N = 67; Statistical significance: *$p < .05$; **$p < .01$; ***$p < .001$

Levene's test for equality of variance was non-significant for both body image ($p = .62$) and social comparison ($p = .82$); and therefore, the data does not violate the assumption of homogeneity of variance. Tests for normality revealed that social media engagement was non normally distributed, the other two variables (social comparison and body image) were normally distributed. An independent samples t-test was conducted to compare social comparison tendencies between males and females. The results revealed there was a significant difference in scores, with males ($M = 62.21$, $SD = 13.92$) scoring significantly higher in favourable social comparison than females ($M = 47.32$, $SD = 12.78$), $t (65) = - 4.55$, $p < .001$, two tailed. The magnitude of the differences in the means (mean difference = - 14.9, 95% *CI*: - 21.43 to -8.35) was large (Cohen's $d = 1.11$).

An additional independent samples t-test was conducted to compare group differences between males and females body dissatisfaction levels. The results revealed there was a significant difference in scores, with females ($M = 23.58$, $SD = 9.9$), scoring significantly lower in body image dissatisfaction than males ($M = 30.28$, $SD = 10.04$), $t (65) = - 2.73$, $p = .008$, two tailed. The magnitude of the differences in the means (mean difference = - 6.70, 95% *CI*: - 11.60 to -1.79) was moderate (Cohen's $d = 0.67$).

Lastly, a non-parametric Mann-Whitney U test was conducted to compare social media usage among males and females. This test indicated that social media engagement scores were higher for females ($M = 36.28$) than for males ($M = 31.02$), $U = 464.5$, $p = .273$. However, the result was not significant.

To summarise, there is a significant correlation between social comparison and body image, and a non-significant correlation between social media and body image. The amount of time spent on social media does not predict body image. However, unfavourable social comparisons did predict negative body image to a statistically significant level. Females were shown to be significantly less satisfied with their body image. Males also compare themselves significantly more favourable than females. Social media engagement was higher for females than males, however this finding was not significant.

Discussion

The current study aimed to investigate the relationship between social media engagement and social comparison tendencies on body image perception. It also aimed to look at the gender differences within each variable. Prior findings have shown that social media platforms, in particular Facebook, have been associated with various domains of mental health concerns; these include body dissatisfaction among others such as Facebook addiction, anxiety, depression and disordered eating, drinking cognitions and alcohol use, along with additional mental health problems (Frost, & Rickwood, 2017; Keery et al., 2004; Stice et al., 2000). Previous research found that a tendency for upward comparison, or in other words comparing oneself negatively in relation to others, was linked with body image concerns (Halliwell & Harvey, 2006; Keery et al., 2004). With regards to gender differences, females have been found to have a higher tendency towards unfavourable social comparison, compared to males (Strahan et al., 2006). Through this research, three hypotheses were formulated to address the aims for this study.

It was hypothesized, from prior literature, that (H1) there would be a relationship between social media engagement, social comparison tendencies and body image perception. This was explored using a correlation analysis; from this it was found that there is a significant positive relationship between social comparison and body image. These findings suggest that high rates of unfavourable social comparison to others was associated with high levels of negative body image perception. This is consistent with numerous studies which have also found a relationship between negative social comparison, or upwards social comparison, with body image concerns (Fardouly et al., 2015; Mulgrew & Cragg, 2017; Van den Berg el at., 2002; Vartanian & Dey, 2013). Surprisingly though, a non-significant correlation was found between social media engagement and body image. This conflicts with prior research (e.g. Fardouly et al., 2018;

Mills et al., 2018) that found aspects of social media to cause adverse psychological effects on young adults. This may be due to methodological differences whereby studies alternatively employed scales measuring specific aspect of social media, rather than general time spent on SNSs.

For H2, a multiple regression analysis was employed to investigate whether social media and social comparison predicted body image. The overall model was non-significant. However, social comparison did uniquely predict social media to a statistically significant level. These findings indicate that a tendency towards negative social comparison to others can predict body dissatisfaction. This is consistent with past research implying that high rates social comparison tendencies of their appearance are associated with negative outcomes and body dissatisfaction (Halliwell & Harvey, 2006; Keery et al., 2004).

Lastly, H3 stated that females would score higher in negative body image and social comparison. Gender differences were investigated with relation to the extent that each group socially compared themselves to others, engaged in social media use and the level of negative body image. Results from t-test showed that females scored higher in unfavourable social comparison. This suggests that women had a greater tendency towards negative social comparison than males. Additionally, females had higher levels of body dissatisfaction compared to males. This indicates that females are significantly more dissatisfied with their body image than males. Possibly due to the strong desire shown in various studies women have for a 'thin' figure (Alipour et al., 2015). Finally, it was found that females spent more time on social media than males. Based of the above findings, hypothesis 1 and 2, are partly rejected, and hypothesis 3 can be accepted.

It is concerning that our findings revealed young adult women are likely to hold a tendency toward social comparison, significantly more than males according to our

findings. Additionally, the study revealed that social comparison is predictive of a negative body image; meaning women are more susceptible to both and are potentially engaging in detrimental appearance comparisons to unrealistic standards of beauty. Related to this, there is an increasing predominance of hourglass or 'coca cola' shaped influencers on SNSs, with studies even suggesting that curves, 'in the right places' according to societal standards, are becoming an ideal for women due to cultural changes (Anderson-Fye, 2004; Swami, 2015; Viladrich, Yeh, Bruning, & Weiss, 2009). Two of the Kardashian-Jenner family are among the ten most followed Instagram accounts; number six being Kylie Jenner with 157.69 million followers and number seven is Kim Kardashian West with 156.99 million followers (Statista, 2020). Instagram is an image focused SNS, and considering women who engage in upward comparison are likely to attain body dissatisfaction (Fardouly et al., 2015; Strahan et al, 2006), and this associated with more negative outcomes than downward comparison (Vogel, Rose, Roberts, & Eckles, 2014); Making young women aware of the negative effects of upward social comparison may be crucial in lowering rates of body dissatisfaction associated with following social media influencers (SMIs), which are essentially microcelebrities who aim to attract many followers through an online persona they display (Khamis, Ang, & Welling, 2016); and fitspiration content (Fardouly et al., 2018); as it has been linked to lower self-esteem and disordered eating (Grabe et al., 2008; Sampasa-Kanyinga, & Lewis, 2015).

Furthermore, the fourth most followed person on Instagram is Dwayne (the rock) Johnson with 168.19 followers (Statista, 2020), who is an actor with an extreme muscular physique. Findings from this study revealed that social comparison is predictive of body image concerns, this is concerning as past research has suggested that males who were exposed to muscular type physiques on Instagram were more likely to engage in social comparison and assist in negative health outcomes such as body image issues and

depression (Peng et al., 2019; Olivardia et al., 2004). This emphasizes how imperative it is to monitor and be mindful of who we chose to follow, as it can be severely detrimental to well-being and body satisfaction.

Appearance-related social media usage is associated with body image concerns in young adult women, such as engaging with photo activities on Facebook (Alipour et al.,2015; Cohen et al., 2017). Additionally, exposure and following appearance focused Instagram accounts is correlated with a negative body image perception. Yet, general social media use is not related to body image (Cohen et al., 2017). This is consistent with the findings from this study as when measuring social media engagement alone, there was not a relationship between social media and body image. This could implicate that future studies should incorporate appearance-related social media usage when investigating body image. The positive correlation between social comparison tendencies and body image were consistent with previous literature, as research shows that viewing attractive peoples profile pictures was associated with a more negative body image than viewing a less attractive users' profile (Haferkamp, & Krämer, 2011). Similarly, mass media exposure in general is not predictive of body image concerns, but exposure to appearance related media is (Levine, & Murnen, 2009; Tiggemann, 2005). In this study we used a broad measure of social media use and found no significant relationship to body image. From this we can infer, that future research should prioritize examining specific components of SNS usage, in the context of body image.

Many studies have investigated body image influence through SNS usage, the most common being Facebook (Alipour et al.,2015; Cohen et al., 2017; Fardouly et al., 2015). Future studies would benefit from investigating appearance comparison on more image-based platforms that are increasingly rising in popularity such as Instagram and snapchat. From our sample, the social media platform with the most engagement was Instagram

(84%), with participants stating they used this platform daily; this is an image based social media platform. Followed closely by this 78% used Facebook and 70% used Snapchat daily. Perhaps additionally exploring other photo focused SNSs with audiences that engage with niche interests such as fashion or fitness, as studies have found that idealized image shared on image-based SNSs such as Pinterest is associated with feelings of inadequacy and upward social comparison in women (Alperstein, 2015; Lewallen, & Behm-Morawitz, 2016).

The study identifies several limitations. First, the scales utilized perhaps did not measure the variables as accurately as possible. In particular, the body image states scale although had good reliability, only consisted of 6 items (Cash et al., 2002). This could imply that the scale was not detailed or sensitive enough to truly capture a realistic body image perception. In addition to this, it was very appearance-focused and didn't cover judgements on their unconscious attitudes and cognitions regarding their body image. Future studies could utilize more in-depth scale which measure every aspect of this complex construct to generate more accurate results. Furthermore, the participants for this study were primarily based in county Wicklow and Dublin, restricting the generalisability of the findings. Although the study did acquire the minimum number of participants from the suggested sample size formula by Tabachnick & Fidell (2013), the limited sample would not account for the cultural differences past studies have found when researching body image (Swami, 2015); and thus, future studies should consider expanding data collection nationally.

A social media engagement questionnaire was utilized for this study, which measures merely engagement and to what extent (Przybylski et al., 2013). Perhaps finding or developing a social media importance questionnaire would be more accurate to assess how much importance does an individual put on the opinions of others on social media

platforms, with regards to likes, comments, followers, direct messages (DMs). This would highlight the effect of the impact that social media importance has on body image, instead of simply engagement. Exploring this aspect of social media may be important to assess body image as it has been found that engagement alone/time spent on SNSs did not predict the outcome of body dissatisfaction (Meier & Gray, 2014). It would be beneficial to see how it impacts people's self-perceptions, in a negative or positive way, as studies have found that intensity of usage and other factors such as the number of Facebook 'friends' a person has can all influence the outcomes (Anderson, Fagan, Woodnutt, & Chamorro-Premuzic, 2012). There was an addition of questions regarding the importance of social media to the participants, although there was no analysis ran for these 3 questions as it is not a standardized measure. However, future studies may consider investigating whether the importance of social media affects how a person perceives their own body image, as not many prior studies have taken this angle (Perloff, 2014).

The entirety of the scales relied on self-report measures which was a limitation of the current study. As although anonymous, some individuals may have felt embarrassed or in denial of the intensity of their social media engagement. Utilizing self-report scales makes the data prone to self-selecting bias, meaning that answers may have been compromised by how the individual felt at the time, and not their overall feelings surrounding the variables being measured. Perhaps employing an experimental research design in controlled laboratories may be more reliable measures. More longitudinal and experimental studies are therefore needed. For example, as mentioned previously there has been an association between specific aspects of social media use, such as ASME and appearance focused content, may be of particular interest when investigating body image concerns. Given that adolescents are found additionally more susceptible to negative body image with regards to internet and media exposure (Markey, 2010; Tiggemann, & Slater,

2014; de Vries, Peter, de Graaf, & Nikken, 2016); hence longitudinal research on this age demographic, rather than cross-sectional research design, could be beneficial to track SNSs effects over time.

A strength of the study was the age sample, as findings from an analysis conducted for the demographics of social media users from 2015 show that among internet users in America, the percentage of people who use Facebook were highest (82%) for the age group of 18-29 years. Whereas only 48% of online adults aged 65 and older were Facebook users. For Instagram users the percentage is also much higher (55%) for the age group 18-29 compared to the other age groups (Duggan & Brenner, 2015). This indicated that the most active age range on social media platforms by a large extent is young adults aged 18-29. Additionally, 92% of adults aged 18-29 have smartphones (Perrin, 2019); this suggests that social media is available and readily accessible 24 hours a day. Therefore, if social media had a negative impact on body image, it would be found through researching this age range.

There is mounting evidence accumulating that strongly suggests, and in the current studies case, how social comparison predicts body image. Hence, the practical implications of this study are that social comparison should be tackled to reduce the negative effects associated with social media use. Social networking sites usage is positively related to body image issues and eating disorders, and photo-based engagement generated more pertinent associations. Social comparison tendencies mediated this relationship also (Holland, & Tiggemann, 2016). Based on the findings from the current study, the broader implications from a societal perspective are that the minister for health (Simon Harris TD) could benefit from implementing a new policy outlining the detrimental impact that social comparison can have on body image in the 'Corporate Legislation, Mental Health, Drugs Policy and Food Safety Division'. Additionally, the Health Service Executive (HSE) may

consider writing health guidelines regarding the negative effects social comparison can have on body image, as this may potentially decrease the detrimental health outcomes linked to body dissatisfaction. This would be mutually beneficial and in the best interest of both the government and the public, as there is cumulative evidence showing the negative health outcomes associated with body image issues. The implementation of these recommendations could decrease these outcomes, and may result in additional funding for the mentioned division to be utilized in other areas such as preventative measures instead of solely treatment, as negative body image is highly predictive of depression and eating disorders, among others (Keery et al., 2004; Stice et al., 2000).

Conclusions

Overall, there is consistent evidence that social comparison is associated with negative body image, and our study further substantiates the existing literature and strengthens prior findings. Future studies may implement a new perspective by developing a measure for the impact or importance of social media scale, instead of simply engagement or active usage as these only measure time spent on social media and not the significance it has in an individual's life. Additionally, studies should employ more experimental and longitudinal research to clearly measure the specific aspects of social comparison and social media that cause body dissatisfaction and how this develops over a person's lifetime, this may aid in the development of interventions and preventative measures to reduce associated negative outcomes. Body image is a complex and ever-changing construct, that can be influenced by our surroundings, culture and preferences. It is therefore important to continually update knowledge and research on this topic due to the negative health outcomes associated with it such as depression and eating disorders (Dittmar, 2009; Grabe, Ward, & Hyde, 2008; Peat & Muehlenkamp, 2011; Stice, 2002). Hence, the broader implications of this study are perhaps how the government could adopt

a new policy, and that the HSE could write new health guidelines regarding the negative

influence that social comparison has on body image perception.

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Appendices

Appendix A

Evidence of data and SPSS output (full data file available upon request)

SPSS DATA.sav

	Name	Type	Width	Decimals	Label	Values
1	Gender	Numeric	6	0		{1, Female}...
2	Age	Numeric	2	0		None
3	County	Numeric	40	0		{1, Wicklow}..
4	Occupation	String	22	0		None
5	SMQSocial...	Numeric	11	0	Howoftendidyou...	{0, Not one ...
6	SMQafterwa..	Numeric	11	0		None
7	SMQbreakfast	Numeric	11	0		None
8	SMQlunch	Numeric	11	0		None
9	SMQdinner	Numeric	11	0		None
10	SMQTotal	Numeric	8	2		None
11	HoursSpent...	Numeric	17	0	Howmanyhours...	{1, Less tha...
12	Importance...	Numeric	1	0	Howimportantar..	{1, Not impo..
13	Importanceo.	Numeric	1	0	Howimportantar..	{1, Not impo..
14	Inrelationtoo.	Numeric	2	0	inferior, superior	{1, Inferior}...
15	Inrelationtoo.	Numeric	2	0	incompetent, m.	{1, Incompet.
16	Inrelationtoo.	Numeric	2	0	unlikeable, mor..	{1, Unlikeabl.
17	Inrelationtoo.	Numeric	2	0	left out, accepte	{1, Left out}...
18	Inrelationtoo.	Numeric	2	0	different, same	{1, Different}..
19	Inrelationtoo.	Numeric	2	0	untalented, mor.	{1, Untalent...
20	Inrelationtoo.	Numeric	2	0	weaker, stronger	{1, Weaker}...
21	Inrelationtoo.	Numeric	2	0	unconfident, mo	{1, Unconfid..
22	Inrelationtoo.	Numeric	2	0	undesirable, mo..	{1, Undesira..
23	Inrelationtoo.	Numeric	2	0	unattractive, mo.	{1, Unattract..
24	SCSTotal	Numeric	8	2		None
25	Rightnowlfee.	Numeric	40	0		{1, Extremel..
26	Rightnowlfee.	Numeric	40	0		{1, Extremel..
27	Rightnowlfee.	Numeric	40	0		{1, Extremel..
28	@4.Rightno...	Numeric	35	0		{1, Extremel..
29	Rightnowlfeel	Numeric	40	0		{1, A great d..
30	Rightnowlfee.	Numeric	40	0		{1, A great d..
31	BISSTotal	Numeric	8	2		None
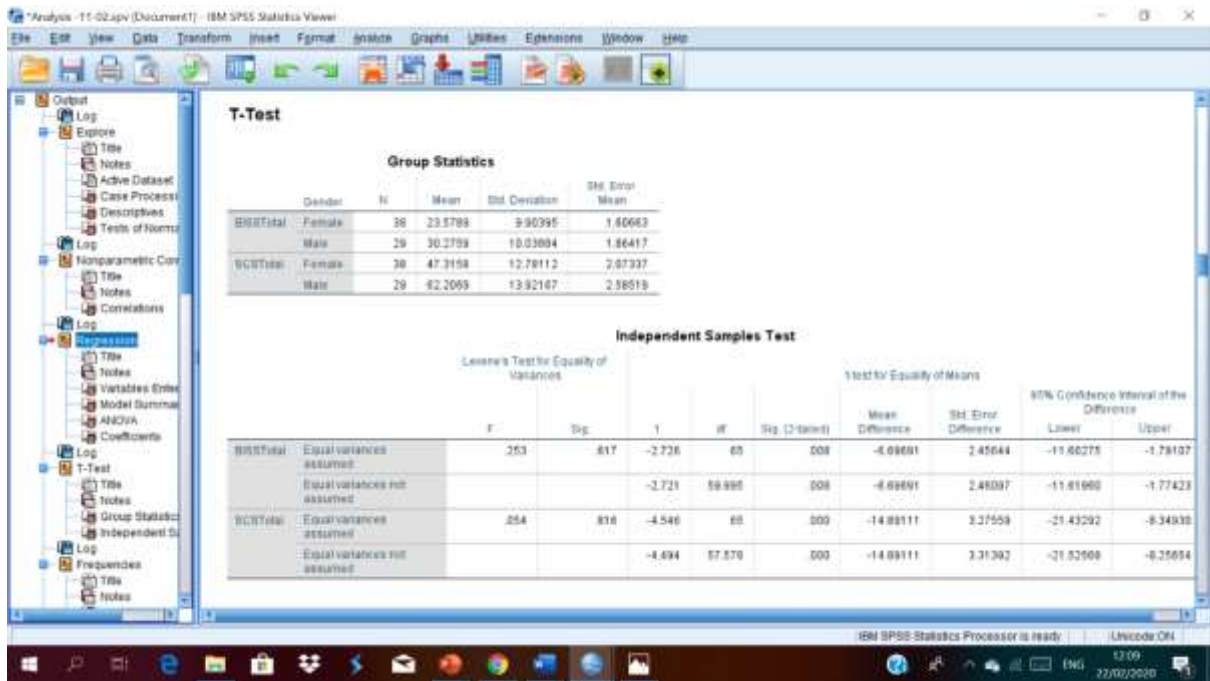
Appendix B

Social Media Engagement Questionnaire: SMEQ

Przybylski, Murayama, DeHaan, & Gladwell (2013)

Participant Instructions

Response Anchors

Not one day | 0

One day | 1

Two days | 2

Three days | 3

Four days | 4

Five days | 5

Six days | 6

Every day | 7

Items

1. How often did you use social media in the 15 minutes before you go to sleep?

2. How often did you use social media in the 15 minutes after you wake up?

3. How often did you use social media when eating breakfast?

4. How often did you use social media when eating lunch?

5. How often did you use social media when eating supper?

Calculating Individual Scores

Individual scores can be computed by summing responses to all five items and forms a

reliable composite measure (α = .82 to .89).

Appendix C

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

SCORING

Scoring, add up all items.

Sometimes it is useful to look at the 3 items of feeling left out, different and an outsider as a measure of group fit or belongingness.

DESCRIPTION

Social Comparison Scale

This scale was developed by Allan and Gilbert (1995) to measure self-perceptions of social rank and relative social standing. This scale uses a semantic differential methodology and

consists of 11 bipolar constructs. Participants are required to make a global comparison of themselves in relation to other people and to rate themselves along a ten-point scale. For example, the scale asks:

In relationship to others I feel:

Incompetent 1 2 3 4 5 6 7 8 9 10 More competent

The 11-items cover judgements concerned with rank, attractiveness and how well the person thinks they 'fit in' with others in society. Low scores point to feelings of inferiority and general low rank self-perceptions.

The scale has been found to have good reliability, with Cronbach alphas of .88 and .96 with clinical populations and .91 and .90 with student populations (Allan and Gilbert, 1995,1997).

Appendix D

BODY IMAGE STATES SCALE

1. Right now I feel . . .

    Extremely dissatisfied with my physical appearance

    Mostly dissatisfied with my physical appearance

    Moderately dissatisfied with my physical appearance

    Slightly dissatisfied with my physical appearance

    Neither dissatisfied nor satisfied with my physical appearance

    Slightly satisfied with my physical appearance

    Moderately satisfied with my physical appearance

Mostly satisfied with my physical appearance

Extremely satisfied with my physical appearance

2. Right now I feel . . .

Extremely satisfied with my body size and shape

Mostly satisfied with my body size and shape

Moderately satisfied with my body size and shape

Slightly satisfied with my body size and shape

Neither dissatisfied nor satisfied with my body size and shape

Slightly dissatisfied with my body size and shape

Moderately dissatisfied with my body size and shape

Mostly dissatisfied with my body size and shape

Extremely dissatisfied with my body size and shape

3. Right now I feel . . .

Extremely dissatisfied with my weight

Mostly dissatisfied with my weight

Moderately dissatisfied with my weight

Slightly dissatisfied with my weight

Neither dissatisfied nor satisfied with my weight

Slightly satisfied with my weight

Moderately satisfied with my weight

Mostly satisfied with my weight

Extremely satisfied with my weight

4. Right now I feel . . .

Extremely physically **attractive**

Very physically **attractive**

Moderately physically **attractive**

Slightly physically **attractive**

Neither attractive nor **unattractive**

Slightly physically **unattractive**

Moderately physically **unattractive**

Very physically **unattractive**

Extremely physically **unattractive**

5. Right now I feel . . .

A great deal worse about my looks than I usually feel

Much worse about my looks than I usually feel

Somewhat worse about my looks than I usually feel

Just slightly worse about my looks than I usually feel

About the same about my looks as usual

Just slightly better about my looks than I usually feel

Somewhat better about my looks than I usually feel

Much better about my looks than I usually feel

A great deal better about my looks than I usually feel

6. Right now I feel that I look . . .

A great deal better than the average person looks

Much better than the average person looks

Somewhat better than the average person looks

Just slightly better than the average person looks

About the same as the average person looks

Just slightly worse than the average person looks

Somewhat worse than the average person looks

Much worse than the average person looks

Appendix E

Consent Form

Study information

I would like to invite you to participate in this online questionnaire. The current study proposes to investigate the relationship between social media engagement and social comparison tendencies on young adult men and women's body image perception. The study aims to explore whether social media use and social comparison tendencies impact body image perception, whether that be positively or negatively, while examining gender differences among these factors. This research project is being conducted by Emma Nicholson, a psychology student at National College of Ireland (NCI). If you agree to

partake in the questionnaire it should take approximately 5-10 minutes to complete. The

data collected will be used to conduct a thesis for my final year project in my Psychology

course. Please read this form in its entirety before you agree to be in this study.

Participation

Your participation in this study is completely voluntary. You may refuse to take part in the

research or exit the questionnaire at any time, without penalty. For ethical reasons, you are

unable to participate in this study if you are under the age of 18. Additionally, you must be

between the ages of 18-29 years of age as my targeted sample is young adults. This

questionnaire is anonymous, therefore once you have submitted your responses they

cannot be removed as the answers will be stored among a pool of anonymous data.

Benefits

You will receive no direct benefits from participating in this research study. However,

your responses may help us learn more about the potential factors affecting body image

concerns in young adults. Understanding the effects these factors have on body image

perception may aid in future research on what intervention methods and support systems

can be put in place to positively change how young individuals perceive themselves.

Additionally, you would be helping a final year student complete her thesis.

Risks

There are no foreseeable risks involved in participating in this study. However, due to the

nature of this study there will be questionnaires on topics that are personal and sensitive. If

you suffer from a negative body image it may cause you to feel embarrassed or self-

conscious. If throughout any point in this questionnaire you wish to not proceed for any

given reason, you may withdraw from the questionnaire without penalty. The

questionnaire is completely anonymous and treated confidentially, therefore I will not

know who you are or what responses belong to you. Please do not state your name or any

other personal contact information details on the questionnaire. I will include a list of

contact details for support services in the event that you feel distress as a consequence of

partaking in this questionnaire and wish to seek help.

Contact information:

If you have any questions about this questionnaire, please do not hesitate to contact Emma

Nicholson through email at x17439492@student.ncirl.ie or the supervisor of this research

Dr Michelle Kelly at michelle.kelly@ncirl.ie

By clicking the "Yes" button below you are consenting that you are over 18 years of age

and under 29 years of age

       <u>Yes</u>   ☐

By clicking the "I agree" button below you are consenting that you have read the above

information regarding the nature and purpose of this study and you wish to partake in this

study

       <u>I agree</u>   ☐

Appendix F

Debriefing Form

Thank you for participating in the present questionnaire measuring social media

engagement and social comparison tendencies on body image perception. The current

study aims to investigate whether there is a relationship between social media engagement

and social comparison tendencies on body image in young adults.

The questionnaire is confidential and anonymous, therefore submitted responses cannot be withdrawn or removed as the responses will be stored among a pool of anonymous data and your answers will not be able to be identified or retrieved. The information gathered from this questionnaire will solely be used for my thesis and no further studies. However, if my final project surpasses a grade of or above a 2.1 it will be published in the NCI library. The data collected will be stored for 5 years in accordance with NCI policies, after this period however all data from this study will be destroyed.

Again, I would like to sincerely thank you for taking the time to participate in my study. In the event that you felt psychological distress as a result of taking part in this survey, we encourage you to speak out to your family, friends and/or guardians. I have also provided helpline phone numbers below to allow you to seek additional support if needed.

Support Services

NiteLine: 1800 793 793

The Samaritans: (01) 872 7700

Pieta House: (01) 623 5606

Aware Support Line: +35316766166

Contact Information

If you have any concerns or questions on the use of this data, or if you have any further questions about this questionnaire, please feel free to contact myself, Emma Nicholson, through email: x17439492@student.ncirl.ie or the supervisor of this research Dr Michelle Kelly at michelle.kelly@ncirl.ie