The Relationship between Facebook Use and Body-Esteem

John McNamee

Submitted in partial fulfilment of the requirements of the Bachelor of Arts degree (Psychology Specialisation) at DBS School of Arts, Dublin

Supervisor: Margaret Walsh
Head of Department: Dr. Sinead Eccles

April 2013
Department of Psychology
DBS School of Arts

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

I would especially like to thank my supervisor Margaret Walsh for her patience, support, and guidance in completing this thesis. She encouraged me to think for myself and to trust my own judgement, and I have gained so much more from this experience than just the tangible piece of work that follows. Thank you also to Dr. Rosie Reid for kindly allowing me to distribute my questionnaires in her classes, and to Dr. Pauline Hyland whose understanding helped to make life's unexpected obstacles that much easier to overcome.

ABSTRACT

This research aims to explore the relationship between Facebook use and body-esteem, self-esteem, and frequency of body comparison. The study is a quantitative cross-sectional correlational design study, which is descriptive in nature. Students were invited to fill out self-administered questionnaires in a classroom setting, during a break from their class activity, including the Facebook Intensity Scale, the Body-Esteem Scale, Rosenberg's Self-Esteem Scale and the Body Comparison Scale.. This study found a significant weak positive correlation between intensity of Facebook use and frequency of body comparison. A weak significant negative relationship was found between body-esteem and frequency of body comparison, as well as between body-esteem and frequency of weight comparison specifically. In conclusion, Facebook use was found to be associated with body comparison, while frequency of body comparison was found to be negatively related to body esteem.

INTRODUCTION

Television, magazines and films have been accused of promoting unhealthy body ideals, encouraging the often dangerous pursuit of thinness, and contributing to the relentless desire to be attractive. A? new dimension has come to the fore in the past decade in the form of social networking sites, the most notable example currently being Facebook. It has emerged as the market leader, allowing constant access to your peers and their lives. Facebook's unique selling point has been its ease of use, and more recently, its formidable usage statistics. From an Irish perspective, a total of 48.70% of the population, and 72.10% of internet-users are Facebook users, highlighting the prevalence of this service (Ireland Facebook Statistics, Penetration, Demography, 2013). Users now have the capacity to directly compare their lives – and more notably, their appearance – with their peers. As many as 250 million photos are uploaded to the service every day (Austin, 2012). The standards of beauty portrayed in these photos are, by virtue of being representative of peers rather than celebrities, far more attainable. Facebook has its very own 'Facebook Camera' application for smart phones, which allows for fast uploading of user content while providing a glimpse of "what friends are up to in a feed of nothing but their photos." (Facebook Application Description). It is a testament to the significance of photos as part of the Facebook experience when the company itself is willing to strip back all other information on the site and provide access to an exclusively photographic insight into peoples lives. Now more than ever, people have access to sources of physical comparison far in excess of what once came through magazines and the television.

In Ireland, it is estimated that approximately 200,000 people may be affected by eating disorders (A Vision for Change, DoH, p. 149). As many as 400 new cases emerge each year in Ireland, representing approximately 80 deaths every year (A Vision for Change, DoH, p. 255). However, looking deeper than official statistics, body image is undoubtedly an issue for many in the population who don't meet the criteria for eating disorders. In Iceland, for example, Matthiasdottir,

Jonsson, and Kristjansson (2012) found that, among adults in the normal BMI category, 64% of females and 19% of males believed that they needed to lose weight, while overall 50% of females and 35% of males were dissatisfied with their body weight. By contrast, in a study conducted on college students in Iceland using the Eating Disorder Diagnostic Scale, only 9.8% of participants received the diagnosis of an eating disorer (Thorsteinsdottir & Ulfarsdottir, 2008). The discrepancy between the figures for those diagnosed with an eating disorder and those reporting dissatisfaction with their body is a testament to the fact that many people suffer from body image issues without being classified as having an eating disorder. It is vital, therefore, that we investigate the role that Facebook might play in negatively affecting the body-esteem of its users.

Until recently, there has been a tendency for research to focus on judging the body-esteem of female participants by investigating their desire to be thinner, and therefore unintentionally neglecting males in this regard (Want, Vickers and Amos, 2009). Recently, research has begun to provide a more nuanced view of the area, and has been an integral consideration in the design of the current research study. Watkins et al. (2008) have found that obese and overweight college men suffered from a negative body image and greater concern with their weight and shape than the normal or underweight men. Furthermore, a desire for an increase in BMI among men has been found, and it has been argued that this is based in a desire for increased muscle mass (Anderson et al (2003, as cited in Watkins 2008, p. 98).

Leone, Fetro, Kittleson and Welshimer (2011) found a moderate relationship between being dissatisfied with one's body and desiring a different body among a sample of 330 adolescent males aged between 14 and 19. They found that the strongest predicting variable for body dissatisfaction in males was desire for the body of another person. Their results may be limited in their scope for generalisation, however, since just 5.7% of respondents reported having a sexual orientation other than heterosexual, suggesting that self-report bias may have been a factor. Warren (2008) proposed

that prevention of eating pathology in boys could involve “strongly denouncing the physical ideals propagated in mainstream Western media”, which this research study argues may be propagated on Facebook, thus contributing to lower body-esteem (p. 262).

Facebook use

The Facebook Intensity scale is used to measure Facebook usage. It includes measures for total number of friends and time spent per day, while also going beyond simple measures of frequency and duration, incorporating emotional connectedness to the site and its integration into individuals’ daily activities. In terms of time spent on Facebook per day, Thompson and Lougheed (2012) found no significant difference between males and females, though they found that Facebook use forms a significant element of the undergraduate social culture, as 80.24% reported that Facebook was a part of their everyday activities. Interestingly, they defined heavy Facebook users as people who spend an hour or more per day using the service. In relation to this, their investigation showed that there are significant gender differences in the percentage of time spent on Facebook, with females using the service more frequently than their male counterparts. This finding is supported by Hoffman's Rapleaf Study (2008, as cited in Thompson & Lougheed, 2012, p. 95) which found that women spend more time on social media than men. Results gathered using the Facebook Intensity Scale in the current research project will allow for comparisons with these findings.

These results will also be used to examine whether or not the total number of Facebook friends someone has will have an effect on body-esteem and self-esteem. There is, however, contradictory evidence for the average number of friends that a Facebook user has. Thompson and Lougheed (2012) found an average of 587, while Pempek, Yermolayeva and Calvert report an average of 358 friends (2009, as cited in Thompson & Lougheed, 2012, p. 95). Research conducted

by Kalpidou, Costin and Morris (2011) found that their participants had an average of around 200 to 250 friends. The current investigation will contribute more data to this area and hopefully lead to further clarity about the average total number of friends on Facebook. Regardless of the reason for these differentiating figures, this study will explore the possibility that the quantity of friends could be related to the impact of Facebook use on the body-esteem of an individual. One possibility is that having more friends could lead to more social comparisons, or an awareness of being watched by more people than usual. In an interview with The Economist, Dr. Marlow, the in-house sociologist at Facebook, described how regardless of the number of friends, people tend to interact with a very small and stable group of friends ("Social networks: Primates on Facebook | The Economist", 2009). Accordingly, as their total number of friends increases, it is not the core network which grows but the number of casual contacts that users track more passively. Rather than expanding this core group of friends then, having more friends simply means that users are broadcasting their lives to an even larger group of acquaintances **(**"Social networks: Primates on Facebook | The Economist", 2009**)**. In light of this, the current study seeks to explore if the total number of friends is associated with body-esteem. On the one hand, it could be that as users become increasingly aware of their ever-growing audience viewing their photographs that the pressure on them to appear attractive increases. They are opening themselves up to physical comparison with an ever-expanding group of peers. On the other hand, research suggests that larger audience sizes on social networks can actually have a positive effect on individuals. In a study carried out by Manago, Taylor, and Greenfield (2012), a positive correlation was found to exist between estimates of audience size and self-esteem, leading the authors to conclude that larger audiences are associated with higher self-esteem. They contend that having a large friend count facilitates performing for an audience, and individuals increase their self-esteem through attention to the self. The study used an online survey and had a sample size of just 88, of which only 21 were male, and ranged in age from

just 18 to 28. This study will aim to improve upon these limitations and add further clarity to this topic by having no restrictions on the age of participants, by aiming for a larger sample size, and by addressing the gender imbalance.

An online survey conducted by the Center for Eating Disorders at Sheppard Pratt (2012) included a national sample of 600 participants between the ages of 16 and 40, with males comprising 33% of the sample. The study found that 44% of the non-clinical respondents wished to have the same body as their friends when viewing their photos, and 51% felt more conscious about their own bodies when viewing photos of themselves. A further 32% feel sad when comparing photos of themselves to their friend's photos, and another 37% feel the need to change specific parts of their body when comparing their bodies to friend's bodies in photos. This research suggests that there is a strong association between the use of Facebook and body-esteem. It highlights the affect that peer-to-peer comparison can have on an individuals perception of their own body. The significance of peers as sources of comparison is also seen in earlier research undertaken by Carlson Jones (2001) which notes that weight is one of the most frequent targets of peer comparison. As a result of their investigation, it was found that adolescent males and females were just as likely to use their peers, in addition to models, as targets for build and weight. The study was conducted using a sample of 80 high school students, of which nearly 50% were male. Despite the small sample size, the balanced gender ratio is a valuable feature and allows for some insight into how males are effected by these associations. This research underpins the aim of the current study to explore the relationship that Facebook use may have with body-esteem, rates of body comparison, and self-esteem in Irish Facebook users.

Further research conducted by Blechert, Nickert, Caffier, and Tuschen-Caffier (2009) involved creating stimulus materials that included peers instead of models, allowing for both upward and downward comparisons. This study highlighted the importance of peer comparison.

This was achieved through tracking the eye-movements of both healthy controls and individuals suffering from bulimia nervosa. Their selective attentional patterns were interpreted as being representative of their social comparison strategies. Patients with bulimia nervosa were found to engage in more upward social comparison and less downward comparison than the healthy control group, which had the result of decreasing their body satisfaction, which was measured both before and after viewing photographs. By contrast, Blechert et al. (2009) found that the body satisfaction of the healthy controls increased. This is relevant to the current research because individuals suffering from bulimia nervosa often have a negative body image. In line with previous research (Trampe, Staple, and & Siero, 2007; Corning, Krumm, & Smitham, 2006), it has been found that patients with bulimia nervosa have a habitual tendency to engage in social comparisons more often than controls do. This reinforces the idea behind the current research study that individuals using Facebook who may partake in more social comparison could put themselves at risk of developing a negative body image, which would in turn impact on their body-esteem and self-esteem. However, Blechert et al.'s (2009) study had a sample size of just 42, with 20 of those having been diagnosed with bulimia nervosa. The sample included no males, and did not instruct participants to compare themselves with the comparison bodies, but instead the researchers inferred comparison processes from visual attention allocation, meaning that the study cannot equivocally state that it was comparison processes that caused the recorded effects. When exploring the relationship between body-esteem, self-esteem and body comparison, the present study will attempt to address some of the limitations of the cited research with a more balanced gender sample and a larger sample size, and by measuring rates of comparison with the Body Comparison Scale.

Social Comparison

Festinger's Social Comparison Theory (1954) argues that individuals evaluate and learn

about themselves through comparison with others in order to learn how to define themselves. They compare their perceptions, attitudes, feelings and behaviour to those of other people in order to validate their own. The theory argues that, during comparison, people will compare themselves to those who perform slightly worse than they do in order to evaluate themselves positively. In many cases, people are not free to choose who to compare themselves with, but are forced into social comparisons, for instance with peers or family members. Festinger (1954) notes that people are often forced into making an upward social comparison, which can have a negative effect on their self-esteem. The present study argues that one way individuals could be forced into upward social comparison is through viewing photos on Facebook. Van Vonderen and Kinnally (2012) conducted research on undergraduates to explore the relationship between media use and body dissatisfaction. They note that both media figures and peers "serve as references for body image standards that are also likely to connect some way with eating or exercising behavior" (Van Vonderen & Kinnally, 2012, p. 52). They also found that both self-esteem and peer comparisons were the only significant predictors of body dissatisfaction, noting that peer comparison has a stronger effect than comparison with media figures. With regards to the current research project, this supports the view that intensity of Facebook use may be related to body-esteem, self-esteem, and rates of body comparison.

Myers and Crowther (2009) conducted a meta-analytic review of 156 studies, and found evidence that when individuals engage in social comparison they have higher levels of body dissatisfaction. Their study found that there is a stronger correlation between these two variables in women than in men. However, the result could be skewed given that comparison targets may be different for men. Males may be comparing themselves to targets which depict a muscular build rather than a thin build as women are (Karazsia & Crowther, 2008; Brower et al., 1994). Further evidence of this is seen in Bergeron and Tylka's (2007) research which suggests, based on a sample

of 368 males, that muscularity should be included with height and body fat in assessing males body dissatisfaction. This provides the reasoning for including the body-comparison scale in this research project, which incorporates a muscularity subscale to specifically address this issue.

With regards to social comparison, Carlson Jones (2001) notes that both models and celebrities seen in the media and same-sex peers are important sources for judging the self and gathering information about physical appearance attributes. Their investigation reports that those students that who report social comparison most often – whether it be with models of peers – also experience the greatest body dissatisfaction, supporting the connection between body comparisons and negative body image across both genders. In contrast to the findings of Bergeron and Tylka (2007) discussed previously, Carlson Jones (2001) found that rather than body build, it was in fact weight and facial characteristics that account for the variance in body dissatisfaction. Similar research by Carlson Jones, Vigfusdottir, and Lee (2002) has found that being teased by peers about weight was the strongest predictor of body dissatisfaction for adolescent boys. This argument over whether weight or body build have a greater effect will be addressed by the current study through use of the Body Comparison Scale which incorporates both a weight and a muscularity subscale. It is hoped that some clarity can be brought to the discussion over whether weight or muscularity have a greater affect for men.

Tiggemann and Polivy (2010) found that negative outcomes for body dissatisfaction were related to appearance comparison processing. They argue that comparisons to models on the basis of appearance in their study were generally upward, since participants felt that the models were both thinner and more attractive than themselves. Their investigation was restricted to young, white females however, with a mean age of 20.07 and with no males included in the sample. The current study will not restrict participants based on age and will aim for a balanced gender ratio, making the results more generalisable to the Irish population as a whole. Gillen and Lefkowitz (2011) have

found that women tend to believe that other women's ideal body size is thinner than their own actual body size, while results were less conclusive for whether males believed other men's ideal body size was smaller or larger than their own. The researchers note that the further away people believed themselves to be from the ideal of body of their peers, the more negatively they evaluated their own appearance. The study, however, featured a sample with a range of ages from only 18.4 to 20.3, with a mean of 19. While demonstrative of the fact that peer-to-peer comparison does take place, the findings are limited by the age range, and the decision to not include any measure of muscularity limits the relevance of these findings for males. Additionally, Tiggemann and Slater (2003) have found that exposure to thin ideal body images in music videos leads to an increase in body dissatisfaction, supporting the claims of previous researchers (Borzekowski et al., 2000; Tiggemann & Pickering, 1996). Again, however, the sample was comprised of exclusively women, ranging in age from 18 to only 30 and having a mean age of 20.23. They note that viewers may be more resistant to the influence of advertisements given the high levels of awareness about them, but were perhaps less guarded when watching the music videos themselves. It is possible that this argument could be extended in relation to the current research study, and proposed that – just like while watching music videos – people using Facebook may not be aware of its potential influence on their body-esteem and, as a result, not have their guard up and consequently be more susceptible to the negative effects of social comparison.

It is this unknowing susceptibility that makes it particularly important that we research Facebook use and body-esteem since social comparison may happen automatically. Even if individuals are not actively seeking out pictures of attractive same-sex peers, and are not even consciously aware of making any judgements about their own appearance by comparison, the process can still be occurring. The images do not need to be focussed on physical ideals – for example, intentionally demonstrating the thinness of a person – for appearance comparison to take

place. Evidence of this is seen in research by Want, Vickers and Amos (2009), who conducted a study in which participants watched ten minutes of the television show Friends, and read interventions which highlight how unrealistic the appearance of women on the television can be. They found that exposure to a television show without an explicit focus on a women's appearance, like a situational comedy, can nonetheless cause viewers to experience decreased satisfaction with their own appearance. The limitations of their study include the fact that the sample is made up exclusively of just 76 females, without any males include in the sample, which is a limitation that will be addressed in the current study. Further support is found in Stapel and Blanton's (2004) study which exposed participants to subliminal presentations of attractive and unattractive females. Despite not consciously reporting that they saw these faces, Stapel and Blanton note that participants reported feeling worse after having been exposed to the attractive faces (via Want, Vickers, and Amos, 2009, p. 652). In order for appearance comparison to take place and to negatively affect the viewer, then, does not require the presence of explicit thin ideals like those found in music videos. This lends further support to the argument in the current study that use of Facebook could be correlated with body-esteem, self-esteem, and rates of social comparison, since explicitly appearance focussed images are not a pre-requisite for comparison to take place and to have an effect on individuals.

Self-Esteem & Body-Esteem

Franzoi and Shields (1984) note that body-esteem is an important dimension of general self-esteem. They argue that it encapsulates how a person evaluates their own physical appearance, and the attitudes that they have in relation to it. Research has shown that adolescents with excess body weight typically express more dissatisfaction with their bodies than their normal and underweight peers (Mäkinen, Puukko-Viertomies, Lindberg, Siimes, & Aalberg, 2012). Mäkinen et al conducted

a study on 1370 students across 24 schools in Helsinki, Finland. With a sample including 52% males, they investigated the relationship between body dissatisfaction; body mass, self-esteem and eating habits. They found that self-esteem and body dissatisfaction were negatively correlated for both males and females. The present study will explore if self-esteem and body-esteem are correlated in order to support or question these findings. Focussing on the role of Facebook use in these relationships, the previously discussed study by Thompson and Lougheed (2012) found that 9.6% of females and 7.6% of males recognise that pictures their friends post on Facebook give them a negative self body image, although the affect is higher in females (Thompson and Lougheed, 2012). This study will investigate whether or not these effects are present in an Irish sample.

Gonzales and Hancock (2011) investigated the effects of Facebook use on self-esteem, relative to traditional self-awareness enhancing stimuli like mirrors or photographs of oneself. Their study found that "selective self-presentation, afforded by digitally mediated environments can have a positive influence on self-esteem" (Gonzales & Hancock 2011, p. 81-82). This was particularly the case when a person selectively self-presents an edited version of themselves. However, this study had a total of only 63 participants, of which just 16 were male. This study also did not account for the effect that the number of Facebook friends has on self-esteem, which is an important variable as research will be discussed shortly has shown it to have an effect on self-esteem. Gonzales and Hancock (2011) note that it is possible that the recorded increase in self-esteem could be partly due to the total number of friends reminding individuals about the social connections they have made.

The current study will explore the relationship between the total number of friends and self-esteem, as part of the overall focus on intensity of Facebook use. Research in this area is conflicting. Studies focussing specifically on Facebook have not found any significant correlation between self-esteem and the amount of time spent on Facebook. Denti et al. (2012) initially found

that users who spend more time on Facebook have lower self-esteem, however, when they entered the control variables gender, age, education and income, they found that relationship between Facebook usage and self-esteem was actually not significant. However, Mehdizadeh (2010) found a significant negative correlation between self-esteem and Facebook activity, specifically noting the number of times Facebook was checked per day and the amount of time spent on Facebook per session. These results contradict those of Kramer and Winter (2008) which found that self-esteem not correlated to activity on the German web 2.0 site roughly equivalent to Facebook, called 'StudiVZ' (as cited in Mehdizadeh, 2010, p. 363). Given the conflicting nature of the prior research in this area, the present study aims to add further clarity to this area by exploring the relationship between intensity of Facebook use and self-esteem. The previously discussed research by Kalpidou, Costin, and Morris (2011) found a negative correlation between minutes spent on Facebook and self-esteem. However, the study used a small sample size of seventy and had an uneven distribution of gender. This study will attempt to address these issues by aiming to roughly doubling the sample size and aiming to achieve a more balanced gender ratio.

The prevalence of self-presentation bias on Facebook has been noted by Denti et al. (2012) in Sweden's largest ever Facebook study, including a sample of 1011 participants of which 33% were male, with an average age of 32.6 years old, ranging from 14 to 73. These researchers suggest that self-presentation is rife, and this research project will explore this element of self-presentation in photographs. While their study cites the bias inherent in status updates, for example, there is no mention of bias in photographs which could affect the users body-esteem. The current research study contends that it is possible that the preening and pressure to take the 'perfect' picture, in combination with viewing other peoples photos, could be contributing to poorer body-esteem in Facebook users. They found that the most common reason behind a status update was to amuse others, which is cited 76% of the time. This clear focus on the audience could play a role in

photographs and be a factor contributing to lower body-esteem, and this research seeks to explore this.

Aims

This research aims to contribute to a deeper understanding of how Facebook use correlates with body-esteem and self-esteem. In the future, perhaps organisations such as Body Whys could advise those seeking treatment for eating disorders that regulating the amount of time they spend on Facebook could reduce the risk of negatively impacting on their mental health. Beyond this, it may also influence parents, teachers and health-care professionals to promote restricted use of the social network in order to minimise the risk of suffering from these mental health issues.

Hypotheses

1. There will be a significant correlation between intensity of Facebook use and body-esteem.

2. There will be a significant correlation between intensity of Facebook use and frequency of body comparison with peers.

3. There will be a significant correlation between intensity of Facebook use and self-esteem.

METHOD

Participants

A total of 126 non-clinical participants were invited to take part in this study. This sample was comprised of 44 males and 86 females. All participants were DBS students. Lecturers were contacted with a request to attend one of their classes and to distribute the questionnaire among their students. Participants were gathered using a convenience sample. This population was chosen as it is representative of third-level undergraduate students, does not have any inherent vulnerabilities and is also convenient to access. A brief description of the study was provided, along with a clear explanation of the right of all students to decline the invitation to participate, to remove themselves from the study during the questionnaire, and to hand back a voided or incomplete questionnaire. It was made clear that once a student had submitted a filled-in questionnaire that it was no longer possible to remove their data from the study.

Design

This study was a quantitative cross-sectional correlational design study. It was descriptive in nature, since individual participants were tested at a single point in time. The predictor variable in this study was the intensity of Facebook use. This was measured using the Facebook Intensity Scale, which goes beyond measures of frequency and duration to include emotional connectedness to the social network and it's integration into the daily activities of individuals. The remaining variables are all criterion variables. These are; scores on the Body Esteem Scale (Franzoi & Shields, 1984), scores on the Body Comparison Scale (Fisher, Dunn & Thompson, 2002) and scores on the Rosenberg self-esteem scale (Rosenberg, 1965). A demographic questionnaire gathered details regarding the age and sex of participants, as well as determining whether or not they had an active Facebook account.

Data Analysis

All data was analysed using SPSS 18. Analysis was conducted to get the descriptive statistics of the data. The minimum and maximum scores, mean, and standard deviation were computed for age, intensity of Facebook use, body-esteem, self-esteem, and frequency of body comparison. The total scores for all scales was computed in order to facilitate further analysis. The relationship between these variables was explored using a Kendall's tau b. Specifically, the relationship between intensity of Facebook use and body-esteem, self-esteem and frequency of body comparison were the primary analyses. Differences between males and females were analysed using a Mann Whitney U, since the data was deemed to be non-normal and therefore a non-parametric test the most appropriate.

Materials

This study used four questionnaires in order to measure the relationship between the intensity of Facebook use and body-esteem, body comparison processes, and self-esteem. All questionnaires were printed off and provided to participants in a booklet format.

Demographic Data

A brief demographic questionnaire asked for participants age, sex, and whether or not they had an active Facebook account. Age was presented as an open ended question, while the questions relating to gender and an active Facebook account were present as male/female and yes/no options to be circled.

The Facebook Intensity Scale, Ellison, N. B., Steinfield, C., & Lampe, C. (2007)

This questionnaire is a self-administered questionnaire comprised of 8 items intended to measure the intensity of Facebook usage beyond simple measures of frequency and duration, incorporating emotional connectedness to the site and its integration into individuals' daily activities. The first six items are rated as a Likert scale, with each item being rated once on a scale from 1 to 5. Choosing 1 indicates that the participant strongly disagrees with the statement, while choosing 5 would indicate that they strongly agree with the statement. The final two questions are closed-ended questions which require the participant to select one option on both a nine point and six point ordinal scale, respectively. It is possible to ask these two questions as open ended questions but for simplicity sake closed ended was chosen. The coefficient alpha rating for internal consistency (Cronbach's alpha) is 0.83.

Body-Esteem Scale (Franzoi & Shields, 1984)

The Body-Esteem Scale is a self-administered questionnaire comprised of 35 items which are intended to measure characteristics in young adult males and females related to body-esteem. This scale is closely compared with the Body Cathexis Scale *(Secord & Jourard, 1953)*, since it uses 17 items from this scale in addition to 16 new items. The gender-specific sub-scales for the questionnaire are based on the three interrelated factors that describe major body-esteem dimensions for each gender. For males, the body-esteem dimensions deal with physical attractiveness, upper-body strength, and physical condition. For females, the dimensions deal with sexual attractiveness, weight concern, and physical condition. The coefficient alpha rating for internal consistency is .81 to .87 for all the male sub-scales and .78 to .87 for all three female sub-scales. When correlated with the Rosenberg Self Esteem Scale *(Rosenberg, 1965)* in order to estimate convergent validity, a moderate correlation between the two was found. To determine a

participants score for a certain sub-scale of the questionnaire, the individual scores for items on that sub-scale are totalled. The Facebook Intensity score is computed by calculating the mean of all the items in the scale.

Body Comparison Scale (Fisher, Dunn, & Thompson, 2002)

The Body Comparison scale is a self-administered questionnaire comprised of 25 items, and is intended to measure the likelihood that participants will engage in body comparisons with their peers. This scale is an extension of the Physical Appearance Comparison Scale (Thompson, Heinberg & Tantleff, 1991). The first 9 items measure general appearance, while items 10 – 15 are a muscular scale and 16-20 are weight scale items. Items 21-25 specifically address overall muscle tone and shape for the upper and lower body. Participants rate how often they compare aspects of their body, such as lips, chest, waist, and stomach, to those of individuals of the same sex on a 5 point Likert scale, where 1 indicates never and 5 indicates always. Cronbach's alpha for the index is .93. Each sub-scale is scored independently, with general appearance, muscular, and weight each totalled. Higher scores indicate increased likelihood of comparison with peers.

Rosenberg's Self Esteem Scale (Rosenberg, 1965)

Rosenberg's Self Esteem Scale is a 10 item Likert scale. It is a self-administered questionnaire. Each item is answered on a four point scale, ranging from strongly agree to strongly disagree. Total scores range from 10 to 40 given the assigned values of 1-4 to the four point scale. The highest possible score is 40, indicating very high self-esteem, while a score of 10 indicates very low self-esteem. Test retest reliability ranges from .82 to .88, while the coefficient alpha rating (Cronbach's alpha) ranges from .77 to .88. A total score is calculated by totalling the responses to the questionnaire.

Procedure

Permission was received from Pauline Hyland, Head of Research, to conduct this study during class time under the supervision of a lecture in Dublin Business School. Following completion of the questionnaire, permission was sought from the supervisor Margaret Walsh to contact lecturers in Dublin Business School and request permission to invite their students to partake in the study. In the class-room, all students were invited to partake in the study since no restrictions of age, or gender were applicable, and all in attendance would have to be DBS students. Inclusion criteria was that participants were able to understand the instructions and were students of DBS, while exclusion criteria was that they either refused to give informed consent or suffered from severe learning difficulties. The students were reminded that they could decline the invitation to partake, or subsequently opt out at any time before submitting their questionnaire. The front page of the questionnaire outlined the aims, what participation involved, assurances of anonymity and details of how the collected data would be securely stored. This page expressly states that participation was voluntary, and that by completing and submitting the questionnaire the individuals were consenting to participate in the study.

Finally, a debrief page thanked participants for their time, and invited to contact the researcher with any queries they may have. The contact details of DBS Student Services, BodyWhys, and the Samaritans were provided and participants were urged to considering contacting them if the study had caused them any distress. It was noted that a poster symposium would be held in the week starting 8th April 2013, and that all students were invited to view the presentation of the research at this event.

RESULTS

Preliminary Analysis

Table 1 shows the highest and lowest scores reported, the mean, and standard deviation for all participants scores on Age, the Facebook Intensity Scale, the Body Esteem Scale, the Body Comparison Scale, and Rosenberg's Self Esteem Scale.

Table 1: *Descriptive Statistics*

Variable	Minimum	Maximum	Mean	Standard Deviation
Age	18	47	23.27	5.074
Facebook Intensity	4	23	14.87	4.594
Body Esteem	67	170	119.38	20.975
Body Comparison	1	4	2.42	.747
Self Esteem	10	31	19.65	5.349

The sample included more women (n = 122) then men (n = 44), and participants ranged in age from 18 to 47.

Table 2 shows statistics for Gender. Ratings on each of the scales used, along with info on their mean, standard deviation, and standard error mean.

Table 2: *Descriptive Statistics*

Variable	Gender	Mean	Standard Deviation	Standard Error Mean
Facebook Intensity	Male	13.44	5.291	.798
	Female	15.64	3.992	.444
Body Esteem	Male	125.90	20.922	3.268
	Female	115.99	20.315	2.286
Body Comparison	Male	2.38	.814	.126
	Female	2.45	.713	.081
Self Esteem	Male	19.25	4.984	.751
	Female	19.86	5.556	.617

Table 3 shows the correlations between all the tested variables using Kendall's tau b.

Table 3: *Inferential Statistics - Correlation*

Variable	Facebook Intensity	Body Esteem	Body Comparison	Self Esteem
Facebook Intensity	1.000	-.057	.254**	.065
Body Esteem	-.057	1.000	-.122	-.345**
Body Comparison	.254**	-.122	1.000	.192**
Self Esteem	.065	-.345**	.192**	1.000

* p significant at .05 level
** p significant at .01 level

Hypotheses

1. There will be a significant correlation between Intensity of Facebook use and Body Esteem.

Hypothesis one states that "there will be a significant correlation between Intensity of Facebook use and Body Esteem". The data was deemed to be non-normal, and accordingly non-parametric tests were used. A Kendall's tau b correlation found that there was no significant association between Intensity of Facebook use and Body Esteem (tau b(119) = .05, p = .370).

Further analysis found no significant difference between the ratings of males and females on Body Esteem. A Mann-Whitney U test was used to test the hypothesis that there will be a significant difference between the ratings of males and females on the Body Esteem Scale. Males (n=41) had a mean rank of 70.88, compared to the mean rank of 55.11 for females (n=79). The Mann Whitney revealed that males and females did not differ significantly (z = -2.35, p = .019).

Furthermore, a Kendall's tau b correlation found that there was no significant association between Total number of Friends on Facebook and Body Esteem (tau b(119) = .05, p = .602).

2. There will be a significant correlation between Intensity of Facebook use and Self Esteem.

Hypothesis two states that “there will be a significant correlation between Intensity of Facebook use and Self Esteem”. A Kendall’s tau b correlation found that there was no significant association between Intensity of Facebook use and Self Esteem (tau b(124) = .05, p = .304).

Furthermore, a Kendall’s tau b correlation found that there was no significant association between Total number of Facebook Friends and Self Esteem (tau b(124) = .05, p = .989).

3. There will be a significant correlation between Intensity of Facebook use and Frequency of Body Comparison.

Hypothesis three states that “there will be a significant correlation between Intensity of Facebook use and Frequency of Body Comparison”. A Kendall's tau b correlation coefficient found that there was a weak positive significant relationship between Intensity of Facebook use and Frequency of Body Comparison (tau b(119) = .254, p < .01). Therefore the null hypothesis is rejected.

Furthermore, a Mann-Whitney U test was used to test if there was a significant difference between the ratings of males and females on the Muscularity subscale of the Body Comparison Scale. Males (n=44) had a mean rank of 70.26, compared to the mean rank of 59.06 for females (n=81). The Mann Whitney revealed that males and females did not differ significantly (z = -1.65, p = .098).

A Mann-Whitney U test was used to test if there was a significant difference between the ratings of males and females on the General Appearance subscale of the Body Comparison Scale. Males (n=44) had a mean rank of 52.65, compared to the mean rank of 68.62 for females (n=81). The Mann Whitney revealed that males and females did not differ significantly (z = -2.36, p = . 018).

A Mann-Whitney U test was used to test if there was a significant difference between the ratings of males and females on the Weight subscale of the Body Comparison Scale. Males (n=43) had a mean rank of 48.42, compared to the mean rank of 69.98 for females (n=81). The Mann Whitney revealed that males and females did not differ significantly (z = -3.18, p = .001).

Supplementary Analysis

A Kendall's tau b correlation coefficient found that in females (n=75) there was a weak negative significant relationship between Body Esteem and Frequency of Body Comparison in (tau b(75) = -.244, p < .002). Therefore the null hypothesis is rejected. A Kendall's tau b correlation found that in males (n=39) there was no significant association between these two variables (tau b(39) = .099, p = .377).

A Kendall's tau b correlation coefficient found that there was a weak negative significant relationship between Body Esteem and Frequency of Weight Comparison (tau b(118) = -.147, p < .022). Therefore the null hypothesis is rejected.

A Mann-Whitney U test was used to test if there was a significant difference between the ratings of males and females on if Facebook is part of their daily activity. Males (n=44) had a mean rank of 56.75, compared to the mean rank of 66.40 for females (n=81). The Mann Whitney revealed that males and females did not differ significantly (z = -1.48, p = .140).

A Mann-Whitney U test was used to test if there was a significant difference between the ratings of males and females on the Intensity of their Facebook use. Males (n=44) had a mean rank of 54.34, compared to the mean rank of 67.70 for females (n=81). The Mann Whitney revealed that males and females did not differ significantly (z = -1.97, p = .049).

DISCUSSION

The aim of this research has been to explore the nature of the relationship between the use of the social networking website Facebook, and an individual's body esteem, self esteem, and frequency of body comparison with their peers. These relationships were explored using several self-administered questionnaires, with a view to contributing to the recent research exploring this area.

The Facebook Intensity Scale was used as the sole measure of Facebook use, and Rosenberg's Self Esteem Scale was used to measure the participant's self esteem. Body Esteem was explored using the Body Esteem Scale, while the frequency of the participant's comparison of their bodies with that of their peers was measured using the Body Comparison Scale. The study involved the participation of 127 students attending Dublin Business School, who ranged in age from 18 to 47. Females reported having more intense patterns of Facebook use than males, while also having lower body esteem, and a higher rate of body comparison with their same-sex peers. They also reported having higher self-esteem than males.

Hypothesis one stated that there will be a significant correlation between intensity of Facebook use and body esteem. This hypothesis was not supported as no significant correlation was found between these variables. This was unexpected given the suggestion by previous research that Facebook use has a negative impact on how people feel about their body (Centre for Eating Disorders at Sheppards Pratt, 2012) and the effect of audience size (Carlson Jones, 2001). Further analysis found no significant difference between males and females in this regard. No significant correlation was found between the total number of Facebook friends and body esteem. This is contrary to research that found audience size to have an effect in this area (Carlson Jones, 2001). There are several potential reasons for these insignificant findings. Firstly, despite body comparison increasing with Facebook use, perhaps the participants generally felt satisfied enough with their

own appearance that this did not have a negative impact on their body-esteem. It is also possible that an increase in the total number of friends does not directly translate into a perceived increase in audience size. With the average number of friends in this sample falling within the 201-250 category, perhaps increases up from a below average number do not have any effect on body-esteem given the already high number of people who can view the participants profile.

Hypothesis two stated that there will be a significant correlation between intensity of Facebook use and self-esteem. Through analysis of the data it was determined that there was no significant association between these two variables. This contrasts with research in the area that found a relationship between Facebook use and self-esteem (Gonzales and Hancock, 2011; Mehdizadeh, 2010). In an effort to address the specific finding that total number of friends would be associated with self-esteem (Kalpidou, Costin, & Morris, 2011), a Kendall's tau b was used to explore this relationship and found no significant correlation. These findings bring further clarity to an area of conflicting research which has divided researchers. While notably contradicting the findings of the researchers mentioned above, these findings support research by Denti et al. (2012) who have argued that Facebook use does not have any significant correlation with self-esteem.

Hypothesis three stated that there will be a significant correlation between intensity of Facebook use and frequency of body comparison among peers. A weak positive significant relationship between these two variables was found at the .01 level. This finding supports research which has found a relationship between these two variables (Centre for Eating Disorders at Sheppard Pratt, 2012; Tiggemann and Polivy, 2010). Interestingly, no significant difference was found between males and females on any of the three subscales of the body comparison scale, covering the areas of general appearance, muscularity and weight. This is interesting given the expectation that by including a muscularity scale it may help to identify body esteem issues in men. One possible explanation is that, while including a measure for muscularity may indeed help to

recognise the differences between how males and females perceive their own bodies, it does not necessarily mean that an increase in the intensity of Facebook use will be correlated with an increase in frequency of muscularity comparison.

Supplementary analysis was conducted, in addition to the previous research, in order to test specific findings within the reviewed literature. A weak negative significant correlation was found between body esteem and frequency of body comparison. In light of research that has found a correlation between peer body comparison and an individual's body esteem, these results support findings by previous researchers. As a participant's body esteem increased, the rate of their comparison with peers decreased. Furthermore, a weak negative significant relationship was found between body esteem and frequency of weight comparison, specifically. This provides an interesting insight and suggests that as an individual's body esteem increases, their rates of weight comparison decrease.

There was no significant difference between males and females in how Facebook has become part of their daily activity. There was also no significant difference between the intensity of Facebook use between males and females.

Strengths and Weaknesses

This study features some notable strengths. An effort was made to pay equal attention to both males and females. For example, previous research (Bergeron and Tylka, 2007) has noted the potential difference that the inclusion of a muscularity test could have, and this research project made efforts to address those suggestions through the inclusion of the Body Comparison Scale with its muscularity subscale. The questionnaires were laid out clearly and were carefully formatted so as to be straightforward and easy to understand. The participant's well-being was of utmost concern in the current study. Great care was taken firstly, to ensure they completely understood the

situation/study, and subsequently, that they were made aware of care options available for their mental health following the study. A clear introduction to the study explaining both the objective of the study, and the rights of all invited to participate, helped to eliminate any confusion about what participants were being invited to do. The final page of the questionnaire encouraged any distressed participants to seek help from any of several provided services such as BodyWhys and the DBS Student Services. The questionnaires used in this study all have strong reliability, and provide robust data for analysis. The Facebook Intensity Scale has a coefficient alpha rating for internal consistency (Cronbach's alpha) of 0.83. The Body-Esteem Scale's coefficient alpha rating for internal consistency is .81 to .87 for all the male sub-scales and .78 to .87 for all three female sub-scales. A moderate correlation between it and the Rosenberg Self-Esteem Scale was found when estimating convergent validity. For the Rosenberg Self-Esteem Scale, the coefficient alpha rating (Cronbach's alpha) ranges from .77 to .88, while test retest reliability ranges from .82 to .88. The Body Comparison Scale has a Cronbach's alpha of .93. This study adds an Irish dimension to the current research on the topic of the effects of Facebook use, which serves as a valuable contribution to the diverse range of international research on this topic. Prior to this study, a gap in the literature exists for an investigation of the effects of Facebook use in an Irish context, with the vast majority of published research focussed on different nationalities. It investigates a broad range of variables surrounding the issues of body-esteem in an effort to provide a well-rounded analysis of the data.

The present study also features some key weaknesses that limit the ability to generalise the results to a wider population. The sample featured an uneven distribution of gender, with males only accounting for 35% of the population. The administration of the questionnaires in a classroom setting could have caused some anxiety in participants who were filling it in while sitting beside their peers. This could have had an impact on how truthful participants were when answering such

sensitive questions, particularly since comparison of their body to that of their peers was such a key feature of the study. Questionnaires were collected from participants by the researcher into a large bundle. It is possible that participants may have felt some anxiety over the possibility that their questionnaire would be collected last and placed on the bottom or the top of the pile. The population used for this study is too narrow for its intended purpose since all participants were currently enrolled in third level education in a private, fee-paying institution. As such, it is possible that the results are skewed to a particular socio-economic status. Many people within the target population of Facebook users would not attend college at all, and the possibility of attending a private college could simply not exist. With regards to age, the participants in this study have a mean age of 23.27 despite ranging from 18 to 47. This skew towards younger participants could be a result of conducting the research in a college setting, and may have skewed the results. It is possible that youth could be a confounding variable, as younger participants may not yet have matured enough to fully accept their own bodies and learn to maintain their body esteem despite comparison with their peers. Another limitation of this study is that, due to the design being cross-sectional, it is not possible to make predictions about the direction of causality in the relationships that were found. Furthermore, the number of non-Facebook users in this study was so small as to be insignificant. This placed limitations on the ability to explore whether or not Facebook use was in fact causing the findings or if it is another confounding variable.

Implications and Application

There are several recommendations to be made in light of the discussed weaknesses, in order to improve on any future research endeavour. Looking ahead, it is imperative that any future study involves a much more balanced distribution of gender. In order to develop a clear understanding of the interactions of these variables in both men and women, the dedication of equal attention to

males is vital. It is also important that future samples are comprised of equal numbers of users and non-users of Facebook to allow for comparison between these groups. This will facilitate further exploration of the effect that Facebook use may be having on individuals. As opposed to inviting participants to fill in the questionnaires in a classroom setting, future studies would be better served by allowing the sample to participate in private. Subsequently, a completed questionnaire could be placed by the participant into a large box which also contains the questionnaires of previous participants. This could go some way to alleviating the worries of a questionnaire possibly being attributed to them, even if there is a very low likelihood of this occurring. Future studies should use a much broader sample population, making sure to include participants who are not currently enrolled in third level education, and those who are enrolled in public third level institutions. Care should be taken to involve participants from a wide and varied background, but who are also of a variety of ages.

Conclusion

While Facebook's popularity looks set to continue growing, the aim of this research has been to explore the nature of the relationship between the use of the social networking website Facebook, and an individual's body esteem, self esteem, and frequency of body comparison with their peers.

The current study did not support its first hypothesis which stated that there will be a significant correlation between intensity of Facebook use and body esteem. This was an unexpected result, and as an explanation it has been proposed that perhaps the participant's were satisfied with their own physical appearance and as such any increase in Facebook use may not reduce their body-esteem.

The second hypothesis stated that there will be a significant correlation between intensity of Facebook use and self-esteem, and this was not supported by the subsequent data analysis. This

finding brings further clarity to an area of conflicting research which has divided researchers.

In the third hypothesis, it was put forward that there will be a significant correlation between intensity of Facebook use and frequency of body comparison among peers. The findings in this study support this hypothesis, and lend support to the previously cited findings of prior research.

Furthermore, a negative correlation was found between both body-esteem and frequency of body comparison, and between body-esteem and frequency of weight comparison, specifically.

REFERENCES

Anderson, D. A., Lundren, J. D., Shapiro, J. R., & Paulosky, C. (2003). Weight goals in a college-aged population. *Obes Res*, *11*, 274-278.

Austin, S. (2012, February 1). Facebook IPO filing, by the Numbers. [Web log post]. Retrieved from http://blogs.wsj.com/digits/2012/02/01/facebook-ipo-filing-by-the-numbers/

Bergeron, D., & Tylka, T. L. (2007). Support for the uniqueness of body dissatisfaction from drive for muscularity among men. *Body Image*, *4*, 288-295.

Blechert, J., Nickert, T., Caffier, D., & Tuschen-Caffier, B. (2009). Social comparison and its relation to body dissatisfaction in bulimia nervosa: evidence from eye movements. *Psychosomatic Medicine*, *71*(8), 907-912. doi:10.1097/PSY.0b013e3181b4434d

Borzekowski, D. L., Robinson, T. N., & Killen, J. D. (2000). Does the camera add 10 pounds? Media use, perceived importance of appearance, and weight concerns among teenage girls. *The Journal of Adolescent Health*, *26*(1), 36-41.

Brower, K. J., Blow, F. C., & Hill, E. M. (1994). Risk factors for anabolic-androgenic steroid use in men. *Journal of Psychiatric Research*, *28*(4), 369-380.

Carlson Jones, D., Vigfusdottir, T. H., & Lee, Y. (2004). Body Image and the Appearance Culture Among Adolescent Girls and Boys: An Examination of Friend Conversations, Peer Criticism, Appearance Magazines, and the Internalization of Appearance Ideals. *Journal of Adolescent Research*, *19*(3), 323-339.

Carlson Jones, D. (2001). Social Comparison and Body Image: Attractiveness Comparisons to Models and Peers Among Adolescent Girls and Boys. *Sex Roles*, *45*(9-10), 645-664.

Centre for Eating Disorders at Sheppard Pratt, Baltimore. (2012, March 28). *Public Survey Conducted by The Center for Eating Disorders at Sheppard Pratt Finds Facebook Use Impacts the Way Many People Feel About their Bodies.* Retrieved from http://eatingdisorder.org/assets/images/uploads/pdfs/22-publicsurvey.pdf

Corning, A. F., Krumm, A. J., & Smitham, L. A. (2006). Differential Social Comparison Processes in Women with and without Eating Disorder Symptoms. *Journal of Counseling Psychology*, *53*(3), 338-349.

Denti, L., Barbopuolos, I., Nilsson, I., Holmberg, L., Thulin, M., Wendeblad, M., & Davidsson, E. (2012). Sweden's largest Facebook study. *GRI Rapport*, *3*, 1-38.

Ellison, N. B., Steinfield, C., & Lampe, C. (2011). Connection Strategies: Social Capital Implications of Facebook-enabled Communication Practices. *New Media Society*, *20*(10), 1-20. doi:10.1177/1461444810385389

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook ??friends:?? Social capital and college students? use of online social network sites. *Journal of Computer-Mediated Communication*, *12*, 1143-1168.

Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, *7*, 117-140. doi:10.1177/001872675400700202

Fisher, E., Dunn, M., & Thompson, J. K. (2002). Comparison and body image: An investigation of body comparison processes using multidimensional scaling. *Journal of Social and Clinical Psychology*, *21*(5), 566-579.

Franzoi, S. L., & Shields, S. A. (1984). The Body-Esteem Scale: Multidimensional structure and sex differences in a college population. *Journal of Personality Assessment*, *48*, 173-178.

Gillen, M. M., & Lefkowitz, E. S. (2011). Body size perceptions in racially/ethnically diverse men

and women: Implications for body image and self-esteem. *North American Journal of Psychology, 13,* 447-467.

Gonzales, A. L., & Hancock, J. T. (2011). Mirror, mirror on my Facebook wall: effects of exposure to Facebook on self-esteem. *Cyberpsychology, Behavior and Social Networking*, *14*(1-2), 79-83. doi:10.1089/cyber.2009.0411

Ireland Facebook Statistics, Penetration, Demography. (n.d.). Retrieved November 10, 2012, from Social Bakers website, http://www.socialbakers.com/facebook-statistics/ireland

Kalpidou, M., Costin, D., & Morris, J. (2011). The relationship between Facebook and the well-being of undergraduate college students. Cyberpsychology, Behavior, and Social Networking, 14(4), 183-189.

Karazsia, B. T., & Crowther, J. H. (2008). Psychological and behavioral correlates of the SATAQ-3 with males. *Body Image*, *5*(1), 109-115. doi:10.1016/j.bodyim.2007.08.004

Leone, J. E., Fetro, J. V., Kittleson, M., Welshimer, K. J., Partridge, J. A., & Robertson, S. L. (2011). Predictors of Adolescent Male Body Image Dissatisfaction: Implications for Negative Health Practices and Consequences for School Health From a Regionally Representative Sample. *Journal of School Health*, *81*(4), 174-184. doi:10.1111/j.1746-1561.2010.00577.x

Manago, A. M., Taylor, T., & Greenfield, P. M. (2012). Me and My 400 Friends: The Anatomy of College Students? Facebook Networks, Their Communication Patterns, and Well-Being. *Developmental Psychology*, *48*(2), 369-380. doi:10.1037/a0026338

Matthiasdottir, E., Jonsson, S. H., & Kristjansson, A. L. (2010). Body weight dissatisfaction in the Icelandic adult population: a normative discontent?. *European Journal of Public health*, *22*(1), 1-6. doi:10.1093/eurpub/ckq178

Makinen, M., Puukko-Viertomies, L. R., Lindberg, N., Siimes, M. A., & Aalberg, V. (2012). Body

dissatisfaction and body mass in girls and boys transitioning from early to mid-adolescence: additional role of self-esteem and eating habits. *BMC Psychiatry*, *12*(35), 1-8.

Mehdizadeh, S. (2010). Self-Presentation 2.0: Narcissism and Self-Esteem on Facebook.*Cyberpsychology, Behavior, and Social Networking*, *13*(4), 357-364. doi:10.1089=cyber.2009.0257

Myers, T. A., & Crowther, J. H. (2009). Social Comparison as a Predictor of Body Dissatisfaction: A Meta-Analytic Review. *Journal of Abnormal Psychology*, *118*(4), 683-698.

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, *30*, 227-238.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, N.J: Princeton University Press.

Social networks: Primates on Facebook | The Economist. (2009, February 26). Retrieved April 10, 2013, from http://www.economist.com/node/13176775?story_id=13176775

Stapel, D. A., & Blanton, H. (2004). From seeing to being: subliminal social comparisons affect implicit and explicit self-evaluations. *Journal of Personality and Social Psychology*, *87*(4), 468-481.

Thompson, S.H & Lougheed, E. (2012). Frazzled by Facebook? An exploratory study of gender differences in social network communication among undergraduate men and women. *College Student Journal, 46*(1), 88-98.

Thorsteinsdottir, G., & Ulfarsdottir, L. (2008). Eating Disorders in College Students in Iceland. *European Journal of Psychiatry*, *22*(2), 107-115.

Tiggemann, M., & Pickering, A. S. (1996). Role of television in adolescent women's body dissatisfaction and drive for thinness. *The International Journal of Eating Disorders*, *20*(2), 199-203.

Tiggemann, M., & Polivy, J. (2010). Upward and downward: Social comparison processing of thin idealized media images. *Psychology of Women Quarterly*, *34*(3), 356-364. doi:10.1111/j.1471-6402.2010.01581.x

Tiggemann, M., & Slater, A. (2004). Thin ideals in music television: a source of social comparison and body dissatisfaction. *The International Journal of Eating Disorders*, *35*(1), 48-58.

Trampe, D., Stapel, D. A., & Siero, F. W. (2007). On models and vases: body dissatisfaction and proneness to social comparison effects. *Journal of Personality and Social Psychology*, *92*(1), 106-118.

Van Vonderen, K. E., & Kinnally, W. (2012). Media Effects on Body Image: Examining Media Exposure in the Broader Context of Internal and Other Social Factor. *American Communication Journal*, *14*(2), 41-57.

Want, S., Vickers, K., & Amos, J. (2009). The Influence of Television Programs on Appearance Satisfaction: Making and Mitigating Social Comparisons to ?Friends?. *Sex Roles*, *60*(9-10), 642-655. Retrieved from http://dx.doi.org/10.1007/s11199-008-9563-7

Warren, C. S. (2008). The Influence of Awareness and Internalization of Western Appearance Ideals on Body Dissatisfaction in Euro-American and Hispanic Males. *Psychology of Men and Masculinity*, *9*(4), 257-266. doi:10.1037/a0012472

Watkins, J. A., Christie, C., & Chally, P. (2008). Relationship between body image and body mass index in college men. *Journal of American College Health*, *57*(1), 95-100. doi:10.3200/JACH.57.1.95-100

APPENDIX 1

Exploring the effects of Facebook use.

Dear participant,

My name is John McNamee and I am inviting you to take part in my study that explores the effects of Facebook use. This research project is being conducted as part of my studies under the supervision of Ms. Margaret Walsh and will be submitted for examination.

Participation involves completing and returning the attached questionnaire. Please do **not** include your name. This will ensure that responses cannot be linked to individual participants. For this reason, it will not be possible to withdraw from this study once the questionnaire has been collected. These questionnaires will be securely stored and all data will be transferred from the paper record to electronic format and stored on a password protected computer.

Participation is completely voluntary and you are not obliged to take part. It is important to understand that by completing and submitting the questionnaire you are consenting to participate in the study.

Should you require any further information about the research, please contact me at **1654608@mydbs.ie**

Thank you for taking the time to help me with this project.

Gender (please circle): Male Female

Age: _____

Do you have an active Facebook account? (please circle): Yes No

Please read each item and indicate how you feel about the following statements using the scale:

1 = Strongly disagree, **2** = Disagree, **3** = Neither agree nor disagree, **4** = Agree, **5** = Strongly agree.

1. Facebook is part of my everyday activity	1 2 3 4 5
2. I am proud to tell people I'm on Facebook	1 2 3 4 5
3. Facebook has become part of my daily routine	1 2 3 4 5
4. I feel out of touch when I haven't logged onto Facebook for a whi1e	1 2 3 4 5
5. I feel I am part of the Facebook community	1 2 3 4 5
6. I would be sorry if Facebook shut down	1 2 3 4 5
7. Approximately how many TOTAL Facebook friends do you have? Please **circle** your chosen answer.	10 or less 11 – 50 51 – 100 101 – 150 151 – 200 201 – 250 251 – 300 301 – 400 400 or more
8. In the past week, on average, approximately how much time PER DAY have you spent actively using Facebook? Please **circle** your chosen answer.	10 minutes or less 10 – 30 minutes 31 – 60 minutes 1 – 2 hours 2 – 3 hours More than 3 hours

A number of body parts and functions are listed below. Please read each item and indicate how you feel about this part or function of your own body using the following scale;

1 = Have strong negative feelings
2 = Have moderate negative feelings
3 = Have no feelings one way or the other
4 = Have moderate positive feelings
5 = Have strong positive feelings

1. Body scent	_____
2. Appetite	_____
3. Nose	_____
4. Physical stamina	_____
5. Reflexes	_____
6. Lips	_____
7. Muscular Strength	_____
8. Waist	_____
9. Energy level	_____
10. Thighs	_____
11. Ears	_____
12. Biceps	_____
13. Chin	_____
14. Body build	_____
15. Physical coordination	_____
16. Buttocks	_____
17. Agility	_____
18. Width of shoulders	_____
19. Arms	_____
20. Chest or breasts	_____
21. Appearance of eyes	_____
22. Cheeks/Cheekbones	_____
23. Hips	_____
24. Legs	_____
25. Figure or physique	_____
26. Sex drive	_____
27. Feet	_____
28. Sex organs	_____

29. Appearance of stomach	_____

1 = Have strong negative feelings
2 = Have moderate negative feelings
3 = Have no feeling one way or the other
4 = Have moderate positive feelings
5 = Have strong positive feelings

30. Health	_____
31. Sex activities	_____
32. Body hair	_____
33. Physical condition	_____
34. Face	_____
35. Weight	_____

For the items below, use the following scale to rate how **often** you compare these aspects of your body to those of other individuals of the **same sex**. NOTE: Please be sure that you read and respond to all of the questions according to how **often** you would compare yourself to your **same sex peers**.

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

1.	Ears	1	2	3	4	5
2.	Nose	1	2	3	4	5
3.	Lips	1	2	3	4	5
4.	Hair	1	2	3	4	5
5.	Teeth	1	2	3	4	5
6.	Chin	1	2	3	4	5
7.	Shape of face	1	2	3	4	5
8.	Cheeks	1	2	3	4	5
9.	Forehead	1	2	3	4	5
10.	Upper arm	1	2	3	4	5
11.	Forearm	1	2	3	4	5
12.	Shoulders	1	2	3	4	5

13. Chest 1 2 3 4 5

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

14. Back 1 2 3 4 5

15. Waist 1 2 3 4 5

16. Stomach 1 2 3 4 5

17. Buttocks 1 2 3 4 5

18. Thighs 1 2 3 4 5

19. Hips 1 2 3 4 5

20. Calves 1 2 3 4 5

21. Muscle tone of upper body 1 2 3 4 5

22. Overall shape of upper body 1 2 3 4 5

23. Muscle tone of lower body 1 2 3 4 5

24. Overall shape of lower body 1 2 3 4 5

25. Overall body 1 2 3 4 5

Below is a list of statements dealing with your general feelings about yourself.

If you ***strongly agree*** with the statement circle **SA**.
If you ***agree*** with the statement circle **A**.
If you ***disagree*** with the statement circle **D**.
If you ***strongly disagree*** with the statement circle **SD**.

1.	On the whole, I am satisfied with myself.	**SA**	**A**	**D**	**SD**
2.	At times, I think I am no good at all.	**SA**	**A**	**D**	**SD**
3.	I feel that I have a number of good qualities.	**SA**	**A**	**D**	**SD**
4.	I am able to do things as well as most other people.	**SA**	**A**	**D**	**SD**
5.	I feel I do not have much to be proud of.	**SA**	**A**	**D**	**SD**
6.	I certainly feel useless at times.	**SA**	**A**	**D**	**SD**
7.	I feel that I'm a person of worth, at least on an equal plane with others.	**SA**	**A**	**D**	**SD**
8.	I wish I could have more respect for myself.	**SA**	**A**	**D**	**SD**
9.	All in all, I am inclined to feel that I am a failure.	**SA**	**A**	**D**	**SD**
10.	I take a positive attitude toward myself.	**SA**	**A**	**D**	**SD**

If participating in this study has caused you any distress, please consider contacting the following services:

DBS Student Services
E-mail: student.services@dbs.ie

BodyWhys
Helpline: 1890 200 444
E-mail support service: alex@bodywhys.ie

Samaritans
Helpine: 1850 60 90 90
E-mail support service: jo@samaritans.org

If you have any queries regarding this study please feel free to contact me at [redacted]

Thank you again for participating, your help is very much appreciated. The results from this study will be presented at the Poster Symposium held in the week starting 8th April 2013.