

Running Head: Social Media
Influencers, Body-Esteem, Self-
Esteem and Personality

**Investigating the Association Between Social Media Influencers, Personality, Body-
Esteem and Self-Esteem**

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Abstract

It has been suggested that the majority of content individuals are exposed to on social media is of upward comparative content and regular exposure to this has been theorized to lower an individual's self-evaluation. Alongside this is the increasing popularity of 'fitspiration pages' which are curated to influence fitness lifestyles upon its viewers. The current study is looking to assess the impact social media influencers (SMIs) may have on the levels of body-esteem and self-esteem in gym-users, while also investigating impact of different personality types. A sample of 132 gym-users (78% female) were recruited via social media platforms. Participants completed the Rosenberg Scale for Evaluating Self-Worth, the Body Esteem Scale, the Big Five Inventory for Personality and a self-report questionnaire which measured demographics, social media use, exposure and comparison to SMIs. Two hierarchical multiple regressions were used to assess the relationships between exposure to SMI content and comparison to the life of a SMI, with body-esteem and self-esteem. A weak significant relationship of the model as whole was found for both body-esteem and self-esteem. A Mann Whitney-U found a significant difference between male and female gym-users in levels of comparison to SMIs, with females engaging more frequently. Further research regarding the mental well-being of gym-users resulting from exposure to upward comparative content on social media is necessary and would assist in prevention of decreased self-evaluations.

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Introduction

Literature Review

Social Media Influencers and Fitspiration Content

The world of social media has curated a new type of celebrity known as microcelebrities, or social media influencers (SMIs). This new-found form of fame and popularity involves the accomplishment of self-presentation on social media through the creation of an online image of the self, or 'persona', with the aim of attracting attention to their profile and gaining many followers (Khamis, Ang & Welling, 2016; Marwick, 2015). Theresa Senft (2008) branded SMIs as "a new style of online performance that involves people 'amping-up' their popularity over the web using technologies like videos, blogs and social networking sites" (p. 25). Marwick (2013) similarly believes being a microcelebrity "is a state of being famous to a niche group of people" and entails the formation of an online persona that seems authentic, and sometimes relatable, to their followers, with Freberg, Graham, McGaughey, and Freberg (2011) suggesting SMIs constitute a novel sort of third party who have the ability to shape their audiences attitudes, beliefs and perceptions. Chae (2017) demonstrated how individuals with high self-awareness, low self-esteem and high amounts of dependency on other's approval and evaluation are often seen to engage in relentless amounts of social comparison with SMIs.

One way in which the media has recently influenced individuals, specifically in regard to the world of health and fitness, is through 'fitspiration' (an amalgamation of the words fit and inspiration) pages and posts on social networking sites (SNS)s. This form of online content has been seen to become increasingly popular over recent years and is generally curated to influence fitness among users who view it (Boepple & Thompson, 2016). Fitspiration content comes in various forms such as blogs, photos, text and videos and are

produced by numerous individuals like health moguls, friends, celebrities, SMIs and dedicated health and fitness pages. Many individuals stumble upon this type of content on all SNSs, regardless of their interest, due to its vast popularity and sharing (Deighton-Smith & Bell, 2018). Many concerns have been highlighted regarding the main focus of fitspiration content, this often being thin-idealizing and weight loss, along with promotion of some problematic dietary advice (Boepple & Thompson, 2016). These themes have previously been found to be linked to negative body-image attitudes and sometimes disordered eating (Grabe, Hyde & Ward, 2008). Overall, Deighton-Smith and Bell (2018) found fitspiration posts to further promote unrealistic body ideals.

Health, Fitness and Gym-use

Health and fitness have steadily become to be seen and built as a conventional moral responsibility (Wood, 2013), i.e. moral responsibilities based upon what is generally believed or done, with certain subgroups (specifically gym-users), being seen to be more susceptible to body dissatisfaction and body image concerns (Petrie & McFarland, 2009; Stapleton, McIntyre & Bannatyne, 2014). It has also been outlined that recreational gym-users are found to be more vulnerable to low levels of body-esteem than professional fitness individuals and body builders due to differences in levels of knowledge and activity mastery (Stapleton, McIntyre & Bannatyne, 2014). It has been suggested that the motivation behind certain fitness behaviors may be more important than the activity and frequency of exercise itself (Stapleton, McIntyre & Bannatyne, 2014) and that excessive levels of exercise and drives to achieve certain fitness goals, with an unhealthy motive behind it, has potential detrimental effects on the individual's physical and psychological health (Parent, 2013).

Gym use in Ireland, and across the world, has dramatically increased in the last decade, with 500,000 gym members in Ireland across 710 health and fitness clubs recorded in 2018 (Rutgers et al., 2018). This is equivalent to 10% of the Irish population and it is estimated that 32.4% of gym-goers are between the ages of 25 to 34 (Statista, 2018). Being physically fit is associated with numerous health outcomes (Sawada, 2014), although the motive for partaking in physical exercise may impact these potentially beneficial results. Sociocultural agents assist in molding the beliefs and attitudes of individuals in relation to fitness (Paek, Reber & Lariscy, 2011). With media, particularly social media, being so readily available to the individual, it has been found to be crucial in conceptualizing ideologies of fitness, which is often done through the production of misleading and contradictory information (Ellison, White & McElhorne, 2011) and in turn potentially provides the individual with an unhealthy premise to base their fitness goals. The exploitation of inaccurate or misleading fitness-related media has been suggested to produce an increase in appearance-related motives for exercise, rather than health-related motives (Pankratov, Berry & McHugh, 2013).

Social Media and Social Networking Sites

Moreno and Kota (2013) define social media as broadly being any online application that enables its users to share and generate authentic content that others can view and comment on. SNSs are described as web-based virtual communities that enables the construction and development of an individual and partially public profile. These platforms have become increasingly present in the daily lives of all individuals, especially among teens and young adults, as a means of interaction and communication (Oberst et al., 2017). The majority of young adults have been found to use photo-based SNSs such as Snapchat, Facebook and Instagram (Choukas-Bradley, Nesi, Widman & Higgins, 2018). Facebook is the most popular SNS with an average of 1.65 billion users (Statista, 2016) with Instagram

and Twitter closely following behind, with 400 million and 310 million monthly users respectively (Hawi & Samaha, 2016). 92% of young adults aged between 18 and 29 years have a smartphone, and therefore have 24-hour access to SNSs, which allows individuals to be exposed to social media more than ever before (Perrin, 2019).

Much work has also shown positive consequences of Facebook use, such as Toma and Hancock (2013) stating individuals need for self-worth are satisfied through social media use and Kim and Lee (2011) implied user's level of general subjective well-being to be heightened from use. Kim and Lee's (2011) study could advance from this by implementing a longitudinal design, rather than cross-sectional, to better infer causation and potentially use a measure that is not self-report so as to reduce the potentiality of self-report biases. Similarly, Valkenberg and Peter (2009) presented how SNSs use grounds for already existing friendships be maintained and improved. Yet, other work has outlined the potentially detrimental effects of SNS use on the individual's well-being (e.g. Best, Maktelow & Taylor (2014); Brooks, 2015; Kross et al., 2013; Sampasa-Kanyinga & Lewis, 2015). Numerous studies have found a link between decreased well-being and high-frequency social media use (Feinstein et al., 2013; Kross et al., 2013).

Vogel, Rose, Roberts and Eckles (2014) have shown how high amounts of exposure to SNSs has been linked with poorer state self-esteem and wellbeing, especially when the profiles viewed are of positive content (e.g. upward comparison target on health and fitness). Similarly, Stapleton, Luiz and Chatwin (2017) displayed how the magnitude of Instagram use had more of a detrimental impact on the user's level of self-worth when their self-evaluations were dependent on approval from others. This study examined the negative impact social comparison on SNSs can have on one's self-esteem levels and suggested the more an individual is exposed to positive profile content, the more detrimental the effects could be.

Social Comparison Theory

King et al. (2013) demonstrated how the escalation in new technologies, virtual communication and interaction between individuals and the outside world, through the exchanging of information via virtual environments, is causing changes to individual's daily habits and behaviors. As well as having communicative relevance for various social functions, it has been suggested how SNSs have been used for a number of social comparative functions (Haferkamp & Kramer, 2011) such as self-evaluation (Festinger, 1954) and self-enhancement (Wills, 1981). Social comparison theory is a cognitive internal phenomenon that focuses on the belief that there is a drive in every individual to obtain accurate self-evaluations. Following this, research started to look at social comparison as a means of self-enhancement (Wills, 1981), which brought about the concepts of upward and downward comparisons (Young & Schachter, 1959). Upward social comparison is where an individual compares themselves with superior others that hold positive characteristics, while downward social comparison is the opposite. It is where individuals compare themselves with those, they deem inferior and that hold negative characteristics (Wills, 1981).

Discrepancies made by the individual between the actual self and the 'ideal-self' (I.e. what one believes as the perfect version of themselves from a social and personal perspective) have been seen to produce lessened self-worth, with the false representation of the self being linked to lower self-esteem and sometimes depression (Michikyan, Dennis & Subrahmanyam, 2014). One's physical appearance is often seen to be the main focus of photo-based SNSs, when discussing photos of people and their bodies (Deighton-Smith & Bell, 2017), and much research has indicated that women who commit to high amounts of body surveillance are prone to show lower levels of body-esteem and other maladaptive behaviors (Calogero, Tantleff-Dunn & Thompson, 2011). Body surveillance is the persistent monitoring of how one's body appears and is one of the suggested mechanisms of how self-

objectification could lead to psychological disturbances in individuals (Fredrickson & Roberts, 1997).

It has been suggested that most content presented to the individual on social media is of upward comparative content, and this is seen to be more detrimental to the users well-being than downward comparative content (Vogel et al., 2014) as well as regular exposure being theorized to lower an individual's self-evaluation (Tesser, Millar & Moore, 1988). SNSs allow users to provide feedback on other's photos and posts through the use of likes and comments. These types of social interactions are built upon the approval of the photos content and is suggested to draw attention to the physical appearance of the individual (in the photo), in turn encouraging social comparison processes mainly based on appearance (Manago et al., 2015). Social comparison on social media has frequently been linked to lessened body satisfaction (Fardouly et al., 2017; Hendrickse, Arpon, Clayton & Ridgway, 2017) and lower self-esteem (Stapleton et al., 2017; Vogel et al., 2014). When the result of upward social comparison is unfavorable self-image, the individual is often seen to project a feeling of resentment towards those who post it as they see them as having attributes, they feel to be lacking in themselves (Chae, 2017; Smith & Kim, 2007).

Personality

Individual personality traits have often been viewed as essential predictors of social media use (Tang, Chen, Yang, Chung & Lee, 2016). The Big Five Personality Traits (Costa & McCrae, 1992) are the most well-validated and widely used classification of personality. Its assessment is based upon 5 main dimensions in describing personality: openness to experience, conscientiousness, extraversion, agreeableness and neuroticism (John, Naumann & Soto, 2008). Each trait scopes across their own individual continuum ranging from extreme low levels to extreme high levels (Liu & Campbell, 2017). It has been suggested that some

individuals are more likely to engage in social comparative tendencies than others and this could be based upon their personality traits (Chae, 2017) with Diener (2009) believing the act of making a comparison to be a function of one's personality.

Those experiencing high levels of openness are considered to be more tolerant in regularly exploring new things (Costa & McCrae, 1992) with low levels often showing a resistance in change or new ideas and a lack of imagination (John & Srivastava, 1999) as well as an association with low self-esteem levels (Zeigler-Hill et al., 2015). The term conscientiousness incorporates the individual's likelihood in engaging in social norms (Bogg & Roberts, 2013) and high levels of conscientiousness are associated with attentiveness and strategical tendencies (Caspi, Roberts & Shiner, 2005) as well as higher and more stable levels of self-esteem (Zeigler-Hill et al., 2015) and spending less time using social media (e.g. Carrier, Cheever, Rosen, Benitez & Chang, 2009). Extraversion is associated with sociability, talkativeness and excitability (Costa & McCrae, 1992) and is frequently linked to seeking social attention (Ashton, Lee & Paunonen, 2002), with those scoring high suggested to be more inclined to engage in downward social comparison (Olson & Evans, 1999; Vanderzee, Buunk & Sanderman, 1996). Those scoring high in extraversion are seen to hold a steady and higher state self-esteem (Zeigler-Hill et al., 2015) and low levels are associated with negative body image (Allen & Walter, 2016).

Agreeableness mirrors one's interpersonal orientation and cooperativeness with others (Costa & McCrae, 1992). Online, agreeableness is generally linked to cooperative abilities and positive relations with others (DeYoung, 2015) and those reporting higher levels of agreeableness tend to hold higher self-esteem levels, with lower scores of agreeableness being associated with lower self-esteem levels (Zeigler-Hill et al., 2015) but holds relatively no impact on body-esteem and body ideals (Allen & Walter, 2016). Finally, high scores in neuroticism are often linked with moodiness and emotional instability (Costa & McCrae,

1992). It has frequently been seen to be positively associated with social media use (Hughes et al., 2012; Tang et al., 2016; Wang, Jackson, Zhang & Su, 2012) and high levels are associated with self-esteem instability (Zeigler-Hill et al., 2015) as well as negative body image (Allen & Walter, 2016).

Conclusion

As Vogel and colleagues (2014) suggest how the majority of social comparative content on social media is of an upward comparative persuasion, and due to the rise in number and popularity of SMIs and the scarce amount of research regarding their potential impacts on their viewers well-being, it deems logical to investigate SMIs (who produce inundated amounts of upward comparative content) and the potential impacts that may be projected upon their followers' levels of body-esteem and self-esteem. It is also important to explore the different dimensions of social media use such as the type of content viewed, the amount of time spent on different platforms and how often individuals may compare themselves to online 'superior others' i.e. SMIs.

Individual personality traits are often viewed as pivotal predictors of social media use and the resulting impacts of that use (Tang et al., 2016). Investigating their influence upon self-esteem and body-esteem, and general tendencies regarding social media may provide a deeper understanding into the possible variations. Finally, there has been a large increase in gym-use (Rutgers et al., 2018) and the production and following of 'fitspiration' pages (Deighton-Smith & Bell, 2018). Motivations behind certain fitness behaviours have often been seen to be more important than the exercise itself (Stapleton, McIntyre & Bannatyne, 2014) as excessive levels of exercise due to unhealthy motives could potentially produce damaging effects on the individual's physical and mental health (Parent, 2013). From this, and due to the lack of research surrounding the impacts of social media use on gym-users

wellbeing, the population of gym-users will be used to investigate the association between exposure to SMIs, the level of comparison between SMIs and the self, body-esteem, self-esteem and personality traits.

Rationale, Research Aims and Hypotheses

High social media use is not necessarily the strongest problematic factor on an individual's well-being, but rather how it is used (Chae, 2017; Tartaglia, 2016; Turel & Serenko, 2012). Upward social comparison on social media has frequently been linked to lessened body satisfaction (Fardouly et al., 2017; Hendrickse, Apron, Clayton & Ridgway, 2017; Meyers & Crowther, 2009) and lower self-esteem (e.g. Stapleton et al., 2017; Vogel et al., 2014), with a heavier impact projected upon females than males (Hargreaves & Tiggemann, 2004; Van den Berg et al., 2009). Much work in the area of social media and body image is predominated by female-focused research (e.g. Fardouly & Vartanian, 2016) yet high amounts of exposure to social media has negative associations with men's body satisfaction (Griffiths, Murray, Krug & McLean, 2018). Social media has been found to be more intoxicating than traditional forms of media (e.g. TV, magazines) due to availability and personalization (Eckler, Kalyango & Paasch, 2016), along with a stronger sense of belonging from interaction with peers and evaluative components, i.e. likes and comments (Strubel & Petrie, 2016).

Chae (2017) demonstrated how those with lower self-esteem scores are more likely to compare themselves with SMIs, and individualistic social comparative tendencies suggested to be a function of one's personality (Diener, 2009) or vary due to personality differences (Chae, 2017). Upward comparative content evidently has more negative effects on an individual's well-being than downward comparative content (Vogel et al., 2014). Fitspiration is mainly of upward comparative content and is often linked to weight loss through problematic dietary advice (Boepple & Thompson, 2016) and unhealthy motives (Pankratov et al., 2013) with themes previously being linked to negative body-image attitudes (Grabe et al., 2008).

Gym-use has been steadily increasing (Rutgers et al., 2018), with motives behind fitness behaviours holding importance (Stapleton et al., 2014). Unhealthy motives can produce destructive impacts on one's health (Parent, 2013) due to misleading information, which often curate's appearance-focused motives for fitness engagement (Pankratov et al., 2013). Most content on social media is also mainly of an upward comparative persuasion (Vogel et al., 2014) and regular exposure to this has been seen to negatively impact one's self-evaluation (Tesser et al., 1988). Those committing to high amounts of body surveillance due to comparisons made on photo-based SNSs show lower body-esteem (Calogero et al., 2011) and a false representation of one's self being linked to lower self-esteem (Michikyan et al., 2014).

Therefore, the current study aims to investigate the possible impact upward comparative content on social media may have on gym-users well-being, with the type of upward comparative content on social media being SMIs. This study aims to gain a deeper understanding into the possible implication's exposure to SMI content and the amount of comparison to the life of a SMI may have on gym-users body-esteem and self-esteem levels, while accounting for individualistic differences in comparative tendencies by examining personality types and gender differences. These aims produce the main research question: Does the amount of time spent a) being exposed to SMI content and b) comparing one's life to that of a SMI have a negative effect on one's body-esteem and self-esteem levels? A supplementary question assessing gender differences in comparisons asks: Are females more likely to compare their lives with SMIs than males?

From the main research question, 2 main hypotheses were derived:

H1: High amounts of time spent a) exposed to SMI content and b) comparing one's life to that of a SMI, will be associated with low body-esteem scores.

H2: High amounts of time spent a) exposed to SMI content and b) comparing one's life to that of a SMI, will be associated with low self-esteem scores.

From the supplementary research question, the following hypothesis was produced:

H3: Females will spend more time comparing their lives to that of a SMI than males.

Methods

Participants

The target population used for the current study was any individual above the age of 18 who attends the gym and who uses social media. The method of sampling used for online survey completion was convenience sampling as participants who came across the online questionnaire self-selected themselves to take part. The method of sampling used for the hard copy questionnaires completed in various gyms was opportunistic sampling as individuals were asked whether they would like to take part or not and had full freedom to decide for themselves.

Within the sample for the current study, 29 participants were males (22%) and 103 were females (78%; $N=132$). The mean age of participants was 28.47 ($m=22$; $SD=13.30$) and ages ranged from 18 to 65. The majority of participants were born in Ireland (95.52%) with the remaining 6 participants each coming from one of each of the following countries: Croatia, England, Germany, Latvia, Poland and Romania (4.8%). 80.3% of participants were employed ($n=106$) and the remaining 19.7% were unemployed ($n=26$). 64.4% of participants were recorded as being single ($n=85$) with the remaining 35.6% selecting the 'all else' option ($n=47$).

Design

The current study is a correlational design as it is investigating whether there is a relationship between numerous amounts of variables and whether any changes in predictor variables may correlate or be associated with changes in some criterion variables. It is a within-groups design as all participants complete the same survey with the same questions. The data is being conveyed quantitatively and holds 2 criterion variables: self-esteem and body-esteem. The predictor variables for this study are gender, age, frequency of exposure to

SMI content, the frequency of comparison to influencers and finally five personality traits; openness to experience, conscientiousness, extraversion, agreeableness and neuroticism.

Additional variables were measured but not included in the testing of any of the hypothesis: country of origin, employment status and marital status, the frequency of use of each of the following social media platforms; Facebook, Twitter, Snapchat and Instagram, and the level of interest in the following types of content; food, travel, fashion, cosmetics, interior design, health and fitness and daily life.

Measures

The self-report questionnaire for the current study was comprised of five different questionnaires, and this was constructed using the survey builder called Google Forms. Questionnaires were distributed online on social media platforms. There was an information sheet (see Appendix 1) provided at the beginning of the questionnaire providing participants with all relevant information about the study and its purpose. Following this there was a consent form (see Appendix 2) outlining the potential risks, benefits, inclusion and exclusion criteria and that consent is fully voluntary. The five sections of this self-report questionnaire comprised of a demographic questionnaire (see Appendix 3), a social media questionnaire (see Appendix 4), the Big Five Inventory (see Appendix 5) to measure personality traits (Costa & McCrae, 1992), the Rosenberg Self-Esteem Measure (see Appendix 6) to measure levels of self-worth (Rosenberg, 1965), and the Body-Esteem Scale (Franzoi & Shields, 1984) which was used to measure body-esteem levels (see Appendix 7).

Part 1: Demographics.

The first part of the questionnaire is comprised of five questions that are used to find out the gender, age, country of origin, employment status and marital status of each participant.

Part 2: Social Media.

The second part of the questionnaire used questions extracted from Chae's (2017) study on the impact social media use and personality traits could have on female's envious attitudes towards social media influencers. This section was comprised of four questions which measures the frequency of comparison to influencers, the amount of time spent on Facebook, Snapchat, Instagram and Twitter, the level of interest in: food, travel, fashion, cosmetics, health and fitness and daily life content and how often in the individual had been exposed to the social media of an influencer. Internal reliability was assessed and reported a Chronbach's alpha of 0.73 and showed to be valid in a study on investigating the contributors to females envy toward SMIs (Chae, 2017).

Part 3: The Big Five Inventory.

The third section of the questionnaire was the Big Five Inventory which is a taxonomy for personality traits. It measures personality using five personality domains; openness to experience, conscientiousness, extraversion, agreeableness and neuroticism. This 44-item questionnaire measures which end of each domain the individual is on (or closest to) through asking participants to rate each presented characteristic by how much they apply to them using a 5-point Likert scale ranging from 'disagree strongly' to 'agree strongly' (John, Naumann & Soto, 2008). The questionnaire begins with the statement 'I see myself as someone who' and presented below are 44 characteristics, for example the first is 'is talkative'. The participant then rates on how much that characteristic applies to them. The Big Five Inventory is considered a reliable and valid measure of personality (McCrae & Costa, 1999) and internal reliability was assessed and reported a Chronbach's alpha of 0.68.

Part 4: The Rosenberg Self-Esteem Measure.

The fourth section was the Rosenberg self-esteem scale which is used to measure an individual's level of self-worth. This is done using a 10-item scale that analyses individual's level of self-worth through rating their correspondence with different statements about feelings of the self (Rosenberg, 1965). This was completed using a 5-point Likert scale that ranged from 'strongly agree' to 'strongly disagree' (Mullen, Gothe & McAuley, 2013). An example statement would be 'I feel I do not have much to be proud of'. The higher the score, the higher the self-esteem, with 40 being the highest possible score and anything below 15 potentially indicating problematic self-esteem in the individual. This scale is considered to be a reliable and valid form of self-esteem assessment (Blascovich & Tomaka, 1991). Internal reliability was assessed and reported a Chronbach's alpha of 0.50 and validity being evident amongst gender and different ethnicities (Robins, Hendin & Trzesniewski, 2001).

Part 5: The Body-Esteem Scale (BES).

The final section of this questionnaire was the BES which is a 35-item questionnaire that investigates characteristics in women and men related to body-esteem (Frazoi & Shields 1984). Of these 35 items, 17 are taken from the Body Cathexis Scale (Secord & Jourard, 1953) which looks at the degree of satisfaction, or dissatisfaction, one feels toward their own body and assesses this by examining correlations between self-esteem and bodily attitudes. This measure presents 35 body parts and functions and the participant must indicate how they feel about said part or function in relation to their own body, using a 5-point Likert scale ranging from 'strong negative feelings' to 'strong positive feelings'. This scale was correlated with the Rosenberg self-esteem scale (Rosenberg, 1965) to support convergent validity and a moderate correlation amongst the 2 scales were presented (Franzoi & Shields, 1984). Internal reliability was assessed and reported a Chronbach's alpha of 0.93. This scale assesses multiple dimensions of body-esteem and these dimensions differ somewhat between males and females. For the purpose of this study scores were calculated by taking the mean of all

35-items (Beyrak-Lev, Gerber, Ein-Dor & Hirschberger, 2018; Goldenberg, McCoy, Pyszczynski, Greenberg & Solomon, 2000) as a general measure of body-esteem was more suitable for the current analysis.

The results from the questionnaire were transferred into an excel document and later transferred onto SPSS, which is a statistical software package used in social and health sciences for interactive and statistical analysis.

Procedure

The researcher shared a link directing individuals to the online form of the questionnaire on Google Forms. This link was shared on social media sites such as Facebook and Instagram, and within these platforms the link was shared on gym profiles and groups. The link directed the participant to the first page of the document being the information sheet. Following this was the consent form where the participant would not be able to proceed further if consent was not given or if they were not over the age of 18 years. The participant then completed the questionnaire from part 1 to 5 and would not be able to proceed if any question was left unanswered. Participants were told at the beginning of the questionnaire they may opt out at any point during participation, but once the questionnaire was submitted it could not be retrieved again due to anonymity. In case of last-minute decisions to withdraw, a reminder was situated before the submit button letting individuals know they cannot retract their form once they click submit. Once the participant selected 'submit', the answers were automatically saved on the researcher's Google Forms profile, which is only accessible through a password protected login only known to the researcher.

The questionnaire took approximately 20 to 25 minutes to complete, which includes the reading of the information sheet and the completion, understanding and agreeance with the consent form. Boxes stating 'agree' or 'disagree' were used for consent rather than a

signature so to keep all participants fully unidentifiable. All participants were fully anonymous and were advised not to state their name anywhere on the questionnaire form. Helplines and the researcher's email were provided at the end of the survey in case anyone who took part felt they needed to seek help due to the types of questions asked and/or if they had any queries for the researcher.

Once data collection was finished, the researcher transferred all the data collected on Google Forms onto an excel sheet, which was then processed onto SPSS. All participants submissions are completely anonymous and will be stored in password protected files only known to the researcher.

Results

Descriptive Statistics

Table 1

Frequencies for the current sample of gym-users on each demographic variable (N = 132)

Variable	Frequency	Valid Percentage
Gender		
Male	29	22
Female	103	78
Country of Origin		
Ireland	126	95.45
Other	6	4.55
Employment Status		
Employed	106	80.30
Unemployed	26	19.70
Marital Status		
Single	85	64.40
All else	47	35.60

Note. ‘Other’ consists of the following countries: Croatia, England, Germany, Latvia, Poland and Romania.

Figure 1. Frequencies for the current sample of gym-users on each SMI variable ($N = 132$).

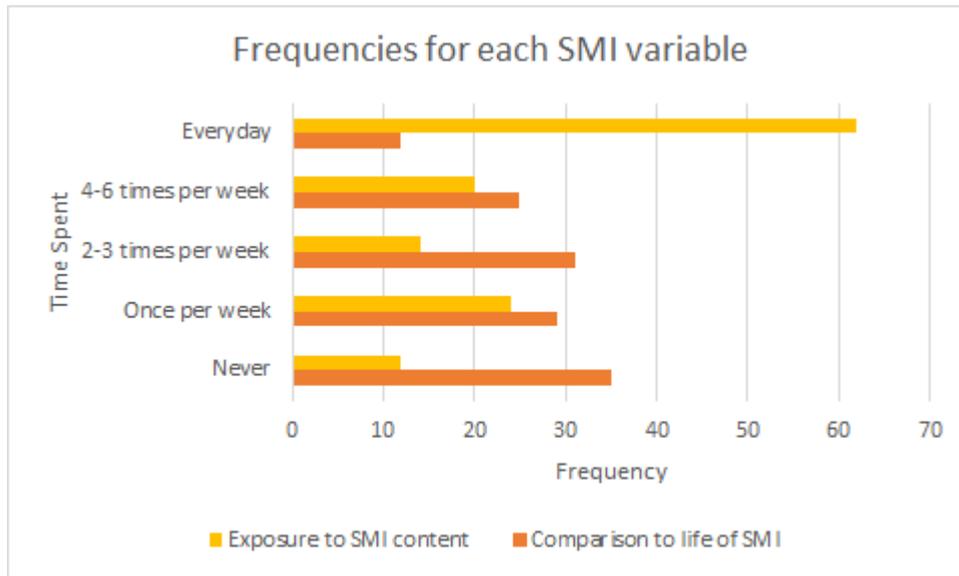


Figure 2. Valid percent of frequencies for the current sample of gym-users for each SMI variable ($N = 132$).

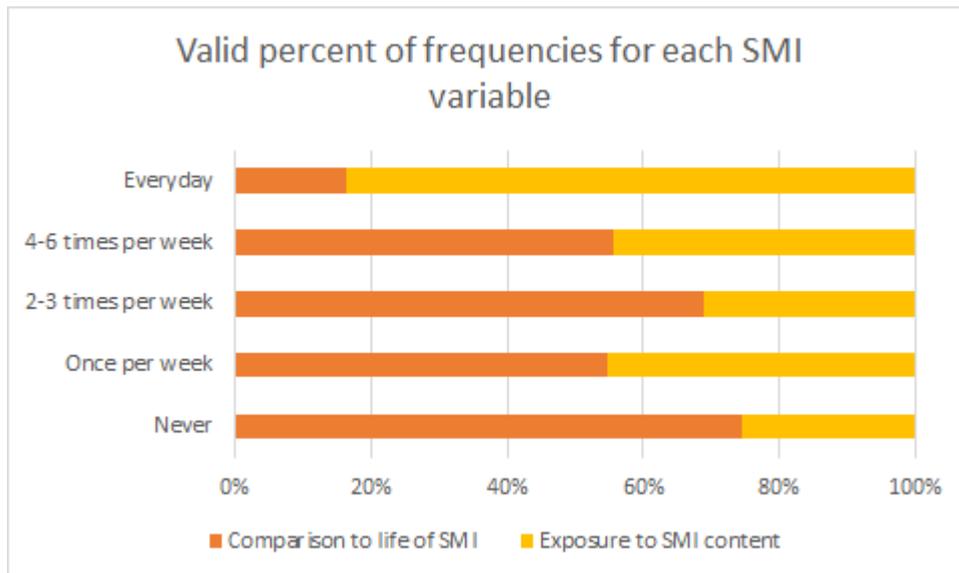


Figure 3. Frequencies for the current sample of gym-users on each variable measuring frequency of use of various social media platforms ($N = 132$).

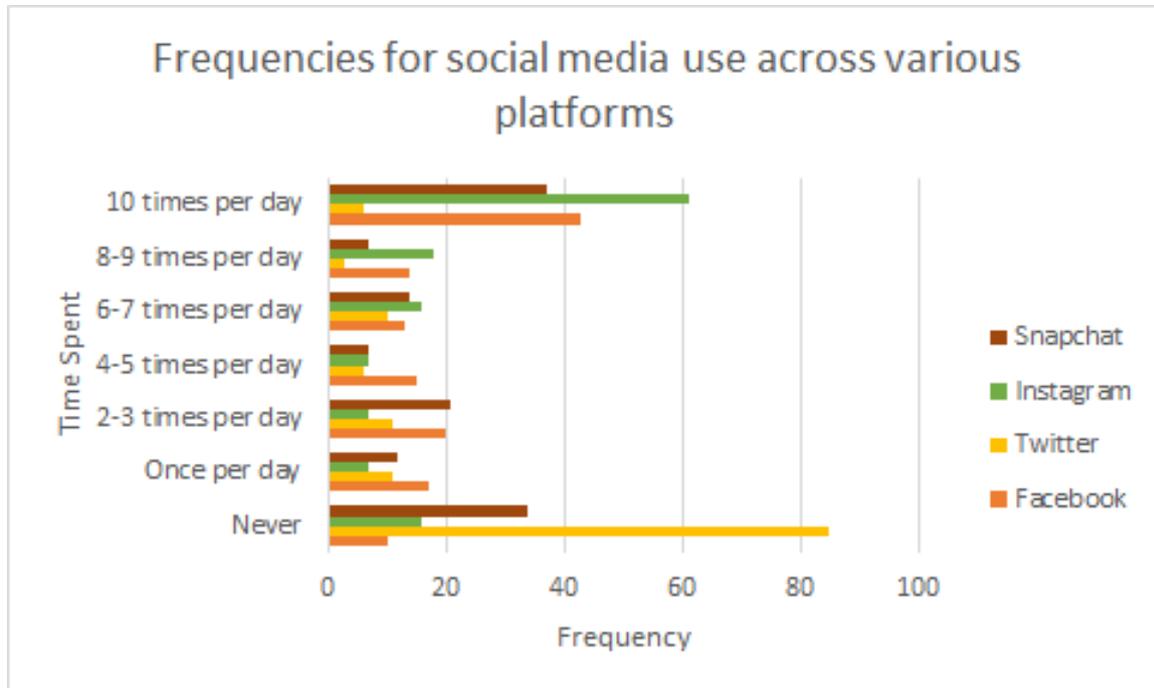


Figure 4. Valid percent of frequencies for the current sample of gym-users on each variable measuring frequency of use of various social media platforms ($N = 132$).

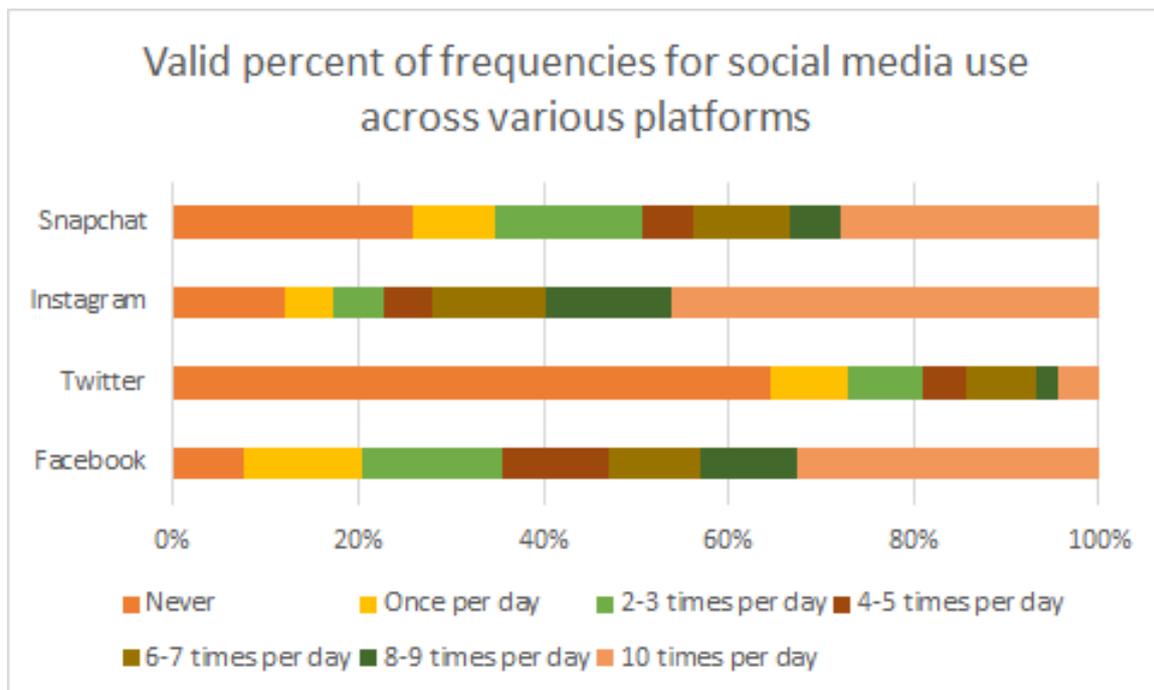


Figure 5. Frequencies for the current sample of gym-goers on each variable measuring level of interest in specific content ($N = 132$).

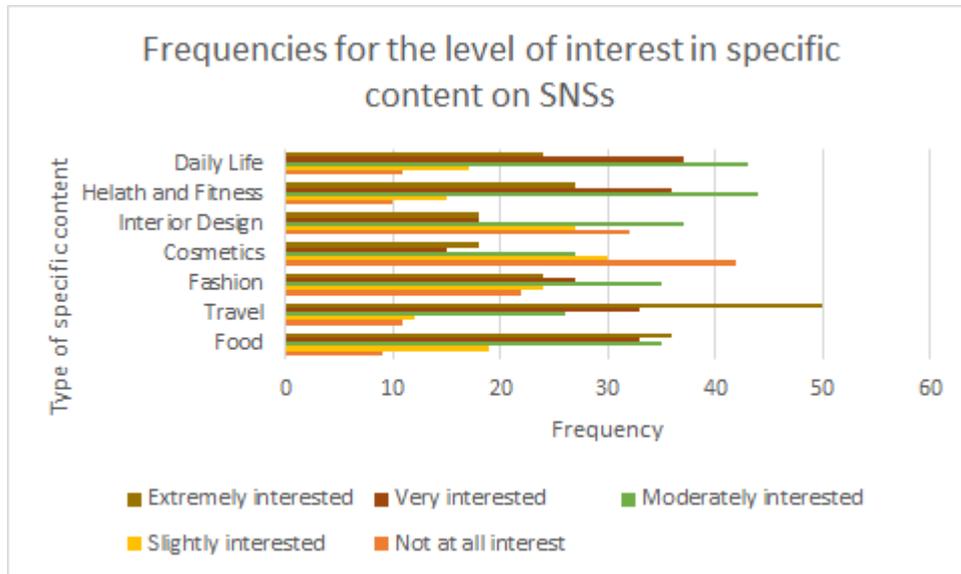
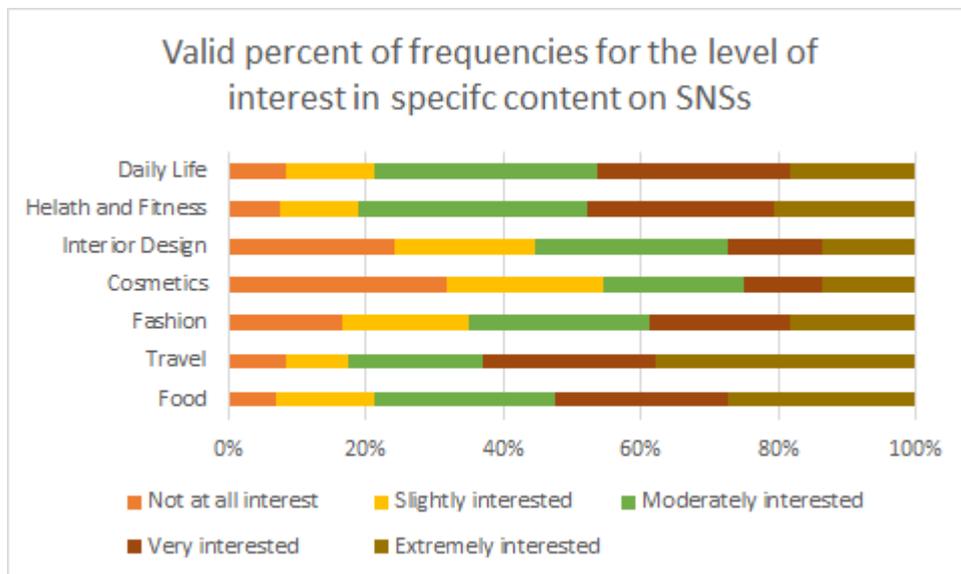


Figure 6. Valid percent of frequencies for the current sample of gym-users on each variable measuring level of interest in specific content ($N = 132$).



The results in table 2 show the mean, standard error mean, median, standard deviation and range for age, self-esteem, extraversion, agreeableness, conscientiousness, neuroticism, openness and body-esteem. The descriptive data suggests moderate levels of self-esteem among the sample of gym-users, with higher body-esteem levels observed.

Histograms (see Appendix 8-15) were initially observed to assess for kurtosis and skewness. All variables were non-normally distributed by observation. Further investigation of normality was assessed through Kolmogorov-Smirnov tests, probability plots and box plots. After inspection, all variables remained non-normally distributed. Further details of descriptive statistics for continuous variables are shown in table 2.

Table 2

Descriptive statistics of all continuous variables for the current sample of gym-users

(N=132)

	Mean (95% Confidence Intervals)	Std. Error Mean	Median	SD	Range
Age	28.47 (26.18- 30.76)	1.16	22	13.30	18-65
Self-Esteem	21.14 (19.63- 22.65)	.76	22	8.77	0-37

Extraversion	26.52 (25.92- 27.13)	.30	26	3.50	20-40
Agreeableness	29.48 (28.78- 30.17)	.35	29	16.37	22-45
Conscientiousness	31.56 (30.89- 32.23)	.34	31	3.90	18-40
Neuroticism	24.87 (24.15-5.59)	.36	25	4.19	8-35
Openness	34.34 (33.43- 35.25)	.46	34	5.30	20-45
Body-esteem	114.71	1.87	117	21.45	58-163

Note. Std. = Standard; SD = Standard Deviation

Inferential Statistics

Hierarchical Multiple Regression

A hierarchical multiple regression was performed to investigate the ability of the impact of exposure to SMI content and comparison of life to that of a SMI to predict levels of body-esteem, after controlling for demographics (age and gender) in step 1 and personality traits (extraversion, agreeableness, conscientiousness, neuroticism and openness) in step 2. Preliminary analyses were conducted to ensure no violation of the assumptions of normality (see Appendix 16), linearity and homoscedasticity. Additionally, the correlations amongst predictors variables (age, gender, extraversion, agreeableness, conscientiousness, neuroticism, openness, comparison to the life of a SMI and exposure to SMI content) were assessed and all correlations were weak to moderate ranging between $r = -.38$ to $.50$ (see Appendix 17). This indicates multicollinearity was unlikely to be a problem (Tabachnick & Fidell, 2013).

In the first step of hierarchical multiple regression, two predictors were entered: age and gender. This model was statistically significant $F(2, 129) = 3.11; p < .05$ and explained 4.6% of variance in body-esteem (see Table 4 for full details). After the entry of personality traits at Step 2 the variance explained by the model was 16.7% ($F(7, 124) = 3.45; p < .01$). Following the entry of comparison of life to that of a SMI and exposure to SMI content in step 3, the total variance explained by the model was 18.9%. The introduction of comparison of life to that of a SMI and exposure to SMI content explained an additional 2.3% of variance in body-esteem scores, after controlling for age, gender and personality traits; a change that was statistically significant ($R^2 \text{ Change} = .02; F(9, 122) = 3.17; p < .01$).

In the final model, extraversion and neuroticism predicted body-esteem levels to a statistically significant degree. Extraversion was a positive predictor, while neuroticism was a

negative predictor of body-esteem, with extraversion ($\beta = .26, p < .01$) being the strongest predictor overall (see Table 3 for full details).

Table 3

Hierarchical regression model predicting body-esteem scores

	R	R ²	R ² Change	B	SE	β	t
Step 1	.22	.05*					
Age				.26	.14	.16	1.87
Gender				-.9	4.53	-.17*	-1.99
Step 2	.41	.17**	.12**				
Age				.13	.14	.08	.90
Gender				-7.20	4.41	-.14	-1.63
Extraver sion				1.52	.56	.25**	2.70
Agreeabl eness				-.47	.53	-.09	-.89
Conscien tiousness				-.12	.54	-.02	-.22
Neurotici sm				-1.30	.46	-.25**	-2.84
Opennes s				.142	.38	.04	.38
Step 3	.44	.19**	.02**				
Age				.02	.15	.01	.15

Gender	-4.86	4.57	-.09	-1.06
Extraversion	1.57	.56	.26**	2.77
Agreeableness	-.43	.52	-.08	-.83
Conscientiousness	-.18	.54	-.03	-.33
Neuroticism	-1.16	.46	-.23*	-2.50
Openness	.27	.38	.07	.72
Comparison	-3.28	1.82	-.20	-1.81
Exposure	.88	1.51	.06	.59

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

Hierarchical Multiple Regression

A hierarchical multiple regression was performed to investigate the ability of the impact of exposure to SMI content and comparison of life to that of a SMI to predict levels of self-esteem, after controlling for demographics (age and gender) in step 1 and personality traits (extraversion, agreeableness, conscientiousness, neuroticism and openness) in step 2. Preliminary analyses were conducted to ensure no violation of the assumptions of normality (see Appendix 18), linearity and homoscedasticity. Additionally, the correlations amongst predictors variables (age, gender, extraversion, agreeableness, conscientiousness, neuroticism, openness, comparison to the life of a SMI and exposure to SMI content) were assessed and all correlations were weak to moderate ranging between $r = -.38$ to $.40$ (see

Appendix 17). This indicates multicollinearity was unlikely to be a problem (Tabachnick & Fidell, 2013).

In the first step of hierarchical multiple regression, two predictors were entered: age and gender. This model was not statistically significant $F(2, 129) = 1.12; p = .33$ and explained 2% of variance in self-esteem (see Table 3 for full details). After the entry of personality traits at Step 2 the variance explained by the model was 15.9% $F(7, 124) = 3.34; p < .05$ indicating significant results. Following the entry of comparison of life to that of a SMI and exposure to SMI content in step 3, the total variance explained by the model was 16%. The introduction of comparison of life to that of a SMI and exposure to SMI content explained an additional 0.2% of variance in self-esteem scores, after controlling for age, gender and personality traits; a change that was statistically significant ($R^2 \text{ Change} = .002; F(9, 122) = 2.59; p < .01$).

In the final model, extraversion and neuroticism predicted self-esteem levels to a statistically significant degree. Extraversion was a positive predictor, while neuroticism was a negative predictor of self-esteem, with neuroticism ($\beta = -.21, p < .05$) being the strongest predictor overall (see Table 4 for full details).

Table 4

Hierarchical regression model predicting self-esteem scores

	R	R ²	R ² Change	B	SE	β	t
Step 1	.13	.02					
Age				.09	.06	.13	1.47
Gender				.04	1.88	.00	.02
Step 2	.40	.16**	.14**				

Age		.03	.06	.04	.50
Gender		1.37	1.81	.07	.76
Extraversion		.49	.23	.19*	2.10
Agreeableness		.26	.22	.12	1.20
Conscientiousness		-.37	.22	-.17	-1.69
Neuroticism		-.46	.19	-.22*	-2.45
Openness		.04	.16	.02	.23
Step 3	.40	.16**	.00**		
Age		.02	.06	.02	.25
Gender		1.63	1.90	.08	.86
Extraversion		.50	.24	.20*	2.11
Agreeableness		.26	.22	.12	1.21
Conscientiousness		-.38	.22	-.17	-1.70
Neuroticism		-.44	.19	-.21*	-2.29
Openness		.05	.16	.03	.31
Comparison		-.29	.76	-.04	-.38
Exposure		-.06	.62	-.01	-.10

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

Mann-Whitney U

A Mann-Whitney U Test revealed a significant difference in the levels of comparison of one's life to that of a SMI for males ($Md = 2, n = 29$) and females ($Md = 3, n = 103$), $U = 1142, z = -1.23, p = .05, r = .11$.

Discussion

The current study was conducted with the hope of gaining a deeper understanding into the possible associations between social comparison on social media, body-esteem, self-esteem and personality traits. More specifically, social comparison on social media was measured by analysing exposure and comparison to SMIs, with the sample being taken from the population of gym-users who use social media. This investigation was conducted through the analysis of 3 hypothesis, with H1 and H2 being the main focus of the study;

H1: High amounts of time spent a) exposed to SMI content and b) comparing one's life to that of a SMI, will be associated with low body-esteem scores.

H2: High amounts of time spent a) exposed to SMI content and b) comparing one's life to that of a SMI, will be associated with low self-esteem scores.

H3: Females will spend more time comparing their lives to that of a SMI than males.

For H1, the association between exposure to SMI content and comparison to SMIs with body-esteem in gym-users was investigated using a hierarchical multiple regression model while controlling for age, gender and personality traits (openness, conscientiousness, extraversion, agreeableness and neuroticism). The overall model was significant, with comparison to SMIs holding a negative relationship with body-esteem, suggesting high rates of comparing oneself with a SMI is associated with low body-esteem levels. Contrastingly, exposure to SMI content held a positive relationship indicating higher exposure to SMI content is associated with higher body-esteem levels. This contradicts the suggested hypothesis which suggested higher levels of exposure to SMI content may be associated with lower body-esteem levels. Interestingly, in the final model, neuroticism and extraversion were the only unique predictors of body-esteem levels. Neuroticism held a negative relationship with body-esteem scores indicating higher scores in neuroticism were associated

with lower body-esteem scores, and extraversion held a positive relationship suggesting higher scores in extraversion were associated with higher body-esteem scores.

For H2, the association between exposure to SMI content and comparison to SMIs with self-esteem in gym-users was also investigated using a hierarchical multiple regression model and controlled for the same variables as H1. The overall model was significant, with exposure and comparison to SMIs holding a negative relationship with self-esteem. This suggests more time exposed to SMI content and more comparisons made to between oneself and SMIs is associated with lower self-esteem levels than those who spend less time comparing and exposed. In the final model, extraversion and neuroticism also were the only unique predictors, with higher levels of extraversion being associated with higher self-esteem scores and higher levels of neuroticism being associated with lower self-esteem scores.

Finally, for H3, gender differences in levels of comparison to SMIs were examined to see if females would be more likely to compare themselves than males. The hypothesis proved a significant, but weak, relationship and projected females produced higher levels of comparison to the life of a SMI than males, indicating female gym-users spend more time comparing themselves to SMIs lives than male gym-users. Based on the above findings, H1, H2 and H3 are all accepted. Past research has similarly shown how poor psychological health is associated with upward social comparisons on social media (Feinstein et al., 2013; Lim & Yang, 2015; Vogel et al., 2014), with high SNS use previously being seen to project negative effects on one's well-being (Feinstein et al., 2013; Kross et al., 2013) as well as high exposure to social media being associated with diminished self-esteem (Stapleton et al., 2017; Vogel et al., 2014).

The above findings add to recent research which shows how social comparison on social media has been linked to body dissatisfaction (Fardouly et al., 2017; Hendrickse et al.,

2017; Meyers & Crowther, 2009) and these comparisons have been seen to leave more of an impression upon females than males (Hargreaves & Tiggemann, 2004; Van de Berg et al., 2009). Some individuals have a greater tendency to be concerned with social comparisons than others (Corning & Gondoli, 2012) and so Buunk and Gibbons (2006) developed the social comparison orientation scale to account for these variations. Those scoring higher in social comparison orientation and who viewed Facebook profiles were found to report poorer self-esteem and lower trait self-perceptions than those scoring low in social comparison orientation (Vogel, Rose, Okdie, Eckles & Franz, 2015) and these findings also align with the above outcomes.

Contrastingly, some studies believe social media use is positively associated with the satisfaction of individuals need for self-worth (Toma & Hancock, 2013), together with general well-being enhanced with use (Kim & Lee, 2011). Active Facebook use has been positively associated with subjective well-being (Kim & Lee, 2011; Kim, Chung & Ahn, 2013; Wang, 2013) as well as life satisfaction (Verduyn, Ybarra, Résibois, Jonides & Kross, 2017). A narrative review produced mixed results regarding the impacts of social media use and exposure on individual's well-being. In relation to the beneficial outcomes of social media use, Best and colleagues (2014) found 13 of their 43 reviewed studies provided positive results suggesting high social media use was associated with increased online social support and this mediated the relationship between social media use, higher self-esteem and overall well-being. Yet, these results should be taken with caution as the benefits found were indirect and the perceptions supported by social support may be misinterpreted as online social support has the potential of providing a false sense of security. These results oppose to the above findings in relation to the users' general well-being, but the overall interpretation of the review was that most 'beneficial outcomes' found were not directly related to the

individual's psychological health and therefore do not provide solid ground to infer strong implications.

SMI's self-presentation on social media is done professionally and projects an effortlessly perfect image to their followers (Chae, 2017), yet this image that is produced is highly calculated, and takes a lot of time, management and often the help of other people (Duffy & Hund, 2015). The exploitation of unrealistic information on social media, in regard to fitness, has evidently produced appearance-focused drives for fitness rather than health-related drives (Pankratov et al., 2013) and much of this upward comparative content emphasizes appearance and promotes thin ideals (Boepple & Thompson, 2011). In align with the above findings, this form of exposure and comparison has been deemed to be an important mechanism by which ideals within the media can negatively impact body image (Tiggemann & Zaccardo, 2015) and self-esteem (Boepple & Thompson, 2011; Stapleton et al., 2017; Vogel et al., 2014).

Future Implications

The current study suggests engagement in upward comparison to SMIs, along with frequent exposure, holds a significant association with body-esteem and self-esteem levels in gym-users. It is important to address that gender differences were evident in the amount of comparisons made with SMIs, with females displaying higher tendencies than males in regard to this study. It is also significant to mention certain personality traits were associated with variations in self-esteem (Zeigler-Hill et al., 2015) and body-esteem (Allen & Walter, 2016) levels, and often can hold an impact on comparative tendencies (Chae, 2017; Diener, 2009). This suggests the effects of social media use may differ in relation to the impact projected upon the user's well-being, as well as the variation in engagement of numerous comparative tendencies the individual may hold.

Importance surrounding how some individuals may interpret certain content on social media differently to others is evident. It would be beneficial to highlight how not everything one sees on social media is always the full truth, and that comparison of one's life to anyone else's can be quite irrational. Everyone learns and lives at different paces, therefore basing one's progress upon the progress of another may produce unrealistic ideas and distort the reality of one's actual progress.

Strengths and Limitations

This study was the first to highlight the importance of the potential impacts the type of social media use may have on gym-users in Ireland's self-perceptions and well-being, along with analysing individual differences regarding age, gender and personality traits. More specifically, the impact of SMIs who produce overwhelming amounts of upward comparative content (Chae, 2017; Vogelt al., 2014) upon the motives supporting the user's engagement in various fitness behaviours. Social media use is becoming more prevalent in people's daily lives (Oberst et al., 2017) and research into its potential impacts and associations are important. This study adds to mass amount of research regarding associations between social media and psychological well-being. Individual differences were accounted for, as well as the investigation into a sample from the population of gym-users, which has rarely been incorporated. The connection between heightened exposure, and comparison to, upward comparative content with diminished self-esteem and body-esteem aligns with previous findings (e.g. Kross et al., 2013; Michikyan et al., 2014; Vogel et al., 2014) and thereby assists in the projection of more solid and combined conclusions within this area.

Although, the study is not without its limitations. Firstly, this study was a correlational design and therefore no causal relationships could be inferred. Secondly, there is a potential of self-selection bias due to the use of self-report measures. This means some

responses may be based upon the participant's feelings at that specific point in time rather than their feelings overall. Caution should be taken with the social media measure used (Chae 2017), as exposure to SMI content and comparison to the life of a SMI was measured on a single-item scale and therefore it may be susceptible to measurement error.

In relation to the self-esteem measure, a 5-point Likert scale was used rather than a 4-point Likert scale. This has been used before, but rarely (Mullen et al., 2013). A neutral response deemed necessary for the purpose of this study, but caution should be taken with the self-esteem results. The mean total for the BES was calculated instead of splitting results into its gender-specific sub-totals. This has been previously been done (Beyrak-Lev et al., 2018; Goldenberg et al., 2000) but once again, caution should be taken in interpretation of the results. Internal reliability for the Rosenberg scale for self-worth ($\alpha = 0.50$) and the BES ($\alpha = 0.93$) was strong and so these variations were used. Finally, an uneven distribution of male and female participants was evident and therefore the results are not generalisable for all genders.

Future directions

To progress from this study, an experimental or longitudinal study could be conducted to better infer causation. This could be done by presenting upward comparative, downward comparative and neutral images to the participants and comparing self-esteem and body-esteem scores from before and after the exposure of various image types. Different types of upward comparative content on social media could also be examined and compared (i.e. SMIs, fitspiration, celebs, peers etc.). Also, the sample of gym-users could be separated into recreational and professional use categories and an investigation into the different perceptions or impacts could be analysed. A wider range of males and females could better infer generalisability for future research. Active and passive social media use could be measured

and compared as well as different types of social comparison orientations. Finally, a more valid social media questionnaire, such as the 'social media use integration scale' (Maree,2017) may better support findings for future studies in this field.

Conclusion

High amounts of social media use are not always the main issue when it comes to the impacts it has on individuals' well-being, but rather how the time on social media is spent (Chae, 2017; Tartaglia, 2016; Turel & Serenko, 2012). Upward social comparison on social media has been linked to body dissatisfaction (Calogero et al., 2011; Fardouly et al., 2017; Hendrickse et al., 2017; Meyers & Crowther, 2009) and lessened self-esteem (Stapleton et al., 2017; Vogel et al., 2014) in numerous studies with various samples and conditions. The current study highlighted the importance of upward social comparisons on social media on gym-users mental health. The above results suggest that engagement in social comparison with SMIs on social media, along with frequent exposure to SMI content, is significantly associated with one's self-esteem and body-esteem levels. Gender differences were also evident, showing females have more of a tendency to compare themselves to SMIs than males.

The above study adds to the existing literature and focuses on gym-users as healthy motivations behind fitness behaviours are so important. This study was the first of its kind and has created a steady foundation to progress from. Further investigation into different social comparative tendencies, different types of gym-users, variations in social media use, while for individual differences, would provide readers with a heightened awareness and knowledge of the potential impacts unrealistic comparison and motivations may have on one's physical and psychological health.

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Appendix

Appendix 1: Information Sheet

Information Sheet

The current study aims to investigate how the frequency of social media use and exposure to social media influencers profiles can impact one's level of self-esteem and body esteem. It will investigate whether the level of exposure to these types of profiles is linked with the frequency of comparison to influencers in both genders. It hopes to gain an understanding into the association between self-esteem, body-esteem, social comparison on social media and the individuals' personality traits, while examining gender differences among these elements.

The main objective of this project is to gain a deeper understanding into the effects these social media influencers have on both genders and how the amount of time spent, and the type of content viewed, on these platforms has on the individual's mental state. It hopes to add to the ongoing investigation into the effects of social media on people's mental health.

This study is aimed at both male and female gym-goers over the age of 18 years. Unfortunately, if you are below the age of 18 you will be unable to take part in the study, and without parental consent it would be unethical. It is necessary for participants to have a social media profile on one or more of the following platforms: Facebook, Twitter, Instagram and Snapchat. The population of gym-goers is being used as there has been a drastic increase in the use of gyms and gym memberships over the past decade and the creation of fitness inspirational pages have shown an increase in popularity also. This population has yet to be investigated in relation to social media effects in both genders.

For taking part, you must state you have fully read this information sheet. The next page will be the consent form. Please read through this to acknowledge any risks, benefits and levels of confidentiality involved in this study. By selecting agree at the bottom of the form you will be confirming you are above the age of 18, you have read the information and consent sheet and that you have voluntarily participated. If you do not agree to this, simply select disagree and you will exit the page, or simply end your participation and do not progress further. By selecting 'agree', you are giving your full consent to take part in the study presented.

The questionnaire will contain 5 parts. The first part will be a range of demographic questions such as gender, age, ethnicity, employment status and marital status. The 2nd section will be on social media and will ask about levels of use, types of content and frequency of exposure and comparison to influencers. The 3rd section will be the Big Five Inventory, which is a 44-item inventory that will assess your personality traits by asking you to rate your likeness to the proposed characteristics using a 5-point Likert scale. The 4th section of the questionnaire will be the Rosenberg measure for self-esteem, which is a 10-item scale that assesses your value of self-worth using a 4-point Likert scale. The 5th and final section will be the Body esteem scale which is a 35-item questionnaire that assesses one's feelings about their various body parts and functions using a 5-point Likert scale. Further instruction on how to answer each scale will be above each section of the questionnaire.

This study is a final year project for a third level degree and therefore will be submitted in the National College of Ireland online. There will also be 2 hard copies bounded, with one possibly being kept in the National College of Ireland's library. A presentation will be given on this project in April 2019 once it has been completed. The project will also be submitted to the Psychology Society of Ireland's congress and if accepted will be published and presented for a second time.

Some questions may be found to be uncomfortable to answer for some participants, or it may make individuals think about certain aspects of themselves in a certain way they may not usually consider. In the case of anyone feeling affected by the questions asked within the questionnaire, there will be links to informative websites and phone services to allow anyone to seek additional information or help.

NOTE: Please do not provide your name or any other personal information on the questionnaire. Please feel free to contact me with any queries or questions.

Thank you for taking your time to read this and participate.

Email: x16410432@student.ncirl.ie

Supervisor's email: fearghal.obrien@staff.ncirl.ie

Appendix 2: Consent Form

You are invited to participate in a questionnaire on self-esteem levels, levels of body self-esteem, social media use and personality traits. The results of these surveys will be used to investigate the impact of types of social media content, frequency of comparison made to social media influencers and the amount of time spent on social media, along with personality factors, can have on levels of self-esteem and body esteem in gym-goers. This project hopes to gain a deeper understanding into the effects social media may have on its users and specifically the impact social media influencers has on its viewers. This is a research project being conducted by Nicola Boyd, a student at the National College of Ireland. It should take approximately 20 minutes to complete.

Participation

Your participation in this questionnaire is voluntary. You may refuse to take part in the research or exit the questionnaire at any time without penalty. Unfortunately, due to anonymity of participants and the nature of online and anonymous written submission, once your questionnaires submission is finalized, you will be unable to retrieve the survey and therefore cannot back out from the research after submission.

Benefits

You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about the influence of social media and social media influencers on individual's well-being and mental state. The number of Instagram users is growing every day, while the average number of hours young individuals spend on social media platforms has increased over recent years. Understanding the effects this can have on a developing mind may assist in understanding what interventions and support systems can be set up to make a difference in a young individual's thought process, about themselves and others.

Risks

There is the risk that you may find some of the questions to be sensitive and you may not finish the questionnaire if you wish not to do so.

There will be a list of helplines, support services and websites provided at the bottom of the questionnaire. These are provided to be used for any participant who feels they have been affected by any part of their participation in the project and otherwise. The researcher's contact details will also be provided for any worries, questions or queries.

Confidentiality

Your questionnaire answers will be sent to a link at Google Forms, if submitted online, where data will be stored in a password protected electronic format. Google Forms does not collect identifying information such as your name, email address, or IP address. Therefore, your responses will remain anonymous. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study.

If you have provided written submission, your questionnaire will be contained in the provided locked box until the researcher collects them. The researcher is the only individual with access to the questionnaires and no other individual will be able to unlock the box to view the questionnaires. These questionnaires will be shredded after they have been computed to a statistical software package.

Once all data has been collected and computed, the information will be stored in a password locked file and a back-up USB stick secured with a password. Both the files and USB will only be accessible to the researcher and only the researcher will have knowledge of the passwords. Once the data is provided within the final written piece, all data will have been averaged and run through various statistical testing. This indicates no one piece of data from any participant will be solely identifiable.

Contact

If you have questions at any time about the study or the procedures, you may contact myself through email: x16410432@student.ncirl.ie.

If you feel you have not been treated according to the descriptions in this form, or that your rights as a participant in research have not been honored during the course of this project, or you have any questions, concerns, or complaints that you wish to address to someone other than the investigator, you may contact the National College of Ireland via email: info@ncirl.ie or phone: 1850221721.

Please select your choice below. You may print a copy of this consent form for your records. Clicking on the "Agree" button indicates the following:

You have read the above information

You voluntarily agree to participate

You are 18 years of age or older

Appendix 3: Questionnaire Part 1; Demographics

Questionnaire

Part 1 of 5: Demographics

- 1) Are you: Male Female
- 2) Please state your age: _____
- 3) Please state country of origin: _____
- 4) Are you: Employed Unemployed
- 5) Marital Status: Single All Else

Appendix 4: Questionnaire Part 2; Social Media

Part 2 of 5: Social Media

1) How often have you compared your life, to that of a social media influencer's, in the past 30 days?

(Please choose one of the following options, with 1 = never and 5 = always)

1 2 3 4 5

2) How often do you use the following social media platforms?

(Please provide an answer for each platform using the following scale: 1= never, 7 = 10 times a day, or state 'NA' if you don't use the platform at all.)

- Facebook _____
- Twitter _____
- Instagram _____
- Snapchat _____

3) Please state how interested you are in the following content categories:

(Please provide an answer for each category using the following scale: 1 = not at all interested, 5 = extremely interested.)

- Food _____
- Travel _____
- Fashion _____
- Cosmetics _____
- Interior Design _____
- Health and Fitness _____
- Daily Life _____

4) How often, in the past 30 days, have you seen the social media of influencers?

(Please choose one of the following options, with answers ranging from: 1 = never to 5 = every day.)

1 2 3 4 5

Appendix 5: Questionnaire Part 3; Big Five Inventory for Personality

3 of 5: The Big Five Inventory

are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree Strongly
1	2	3	4	5

Myself as Someone Who...

- | | |
|--|---|
| ___ 1. Is talkative | ___ 23. Tends to be lazy |
| ___ 2. Tends to find fault with others | ___ 24. Is emotionally stable, not easily upset |
| ___ 3. Does a thorough job | ___ 25. Is inventive |
| ___ 4. Is depressed, blue | ___ 26. Has an assertive personality |
| ___ 5. Is original, comes up with new ideas | ___ 27. Can be cold and aloof |
| ___ 6. Is reserved | ___ 28. Perseveres until the task is finished |
| ___ 7. Is helpful and unselfish with others | ___ 29. Can be moody |
| ___ 8. Can be somewhat careless | ___ 30. Values artistic, aesthetic experiences |
| ___ 9. Is relaxed, handles stress well | ___ 31. Is sometimes shy, inhibited |
| ___ 10. Is curious about many different things | ___ 32. Is considerate and kind to almost everyone |
| ___ 11. Is full of energy | ___ 33. Does things efficiently |
| ___ 12. Starts quarrels with others | ___ 34. Remains calm in tense situations |
| ___ 13. Is a reliable worker | ___ 35. Prefers work that is routine |
| ___ 14. Can be tense | ___ 36. Is outgoing, sociable |
| ___ 15. Is ingenious, a deep thinker | ___ 37. Is sometimes rude to others |
| ___ 16. Generates a lot of enthusiasm | ___ 38. Makes plans and follows through with them |
| ___ 17. Has a forgiving nature | ___ 39. Gets nervous easily |
| ___ 18. Tends to be disorganized | ___ 40. Likes to reflect, play with ideas |
| ___ 19. Worries a lot | ___ 41. Has few artistic interests |
| ___ 20. Has an active imagination | ___ 42. Likes to cooperate with others |
| ___ 21. Tends to be quiet | ___ 43. Is easily distracted |
| ___ 22. Is generally trusting | ___ 44. Is sophisticated in art, music, or literature |

Appendix 6: Questionnaire Part 4; Rosenberg Scale for Self-Esteem

Part 4 of 5: Rosenberg Self-Esteem Measure

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.

Strongly Agree Agree Neutral Disagree Strongly Disagree

2. At times I think I am no good at all.

Strongly Agree Agree Neutral Disagree Strongly Disagree

3. I feel that I have a number of good qualities.

Strongly Agree Agree Neutral Disagree Strongly Disagree

4. I am able to do things as well as most other people.

Strongly Agree Agree Neutral Disagree Strongly Disagree

5. I feel I do not have much to be proud of.

Strongly Agree Agree Neutral Disagree Strongly Disagree

6. I certainly feel useless at times.

Strongly Agree Agree Neutral Disagree Strongly Disagree

7. I feel that I'm a person of worth, at least on an equal plane with others.

Strongly Agree Agree Neutral Disagree Strongly Disagree

8. I wish I could have more respect for myself.

Strongly Agree Agree Neutral Disagree Strongly Disagree

9. All in all, I am inclined to feel that I am a failure.

Strongly Agree Agree Neutral Disagree Strongly Disagree

10. I take a positive attitude toward myself.

Strongly Agree Agree Neutral Disagree Strongly Disagree

Appendix 7: Questionnaire Part 5; Body-Esteem Scale

Part 5 of 5: The Body Esteem Scale

On this page listed are a number of body parts and functions.

Please read each item and indicate how you feel about this part or function of your own body using the following scale. The scale ranges from 'I have strong negative feelings' to 'I have strong positive feelings'.

Item	Strong negative feelings	Moderate negative feelings	No feeling one way or the other	Moderate positive feelings	Strong positive feelings
Body scent					
Appetite					
Nose					
Physical stamina					
Reflexes					
Lips					
Muscular strength					
Waist					
Energy level					
Thighs					
Ears					
Biceps					
Chin					
Body build					
Physical coordination					
Buttocks					
Agility					
Width of Shoulders					
Arms					
Chest					
Appearance of eyes					
Cheeks/cheekbones					
Hips					
Legs					
Figure or physique					
Sex drive					
Feet					
Sex organs					
Appearance of stomach					
Health					
Sex activities					
Body hair					
Physical Condition					
Face					
Weight					

Thank you for taking your time to complete the above questionnaire. Your participation is hugely appreciated.

If **you have been affected** by any of the above statements or questions, please **don't hesitate** to make use of any of the following resources:

Online information and encouragement:

<http://body-inspire.com/>

<http://confidencebuilding.ie/confidence-coaching/>

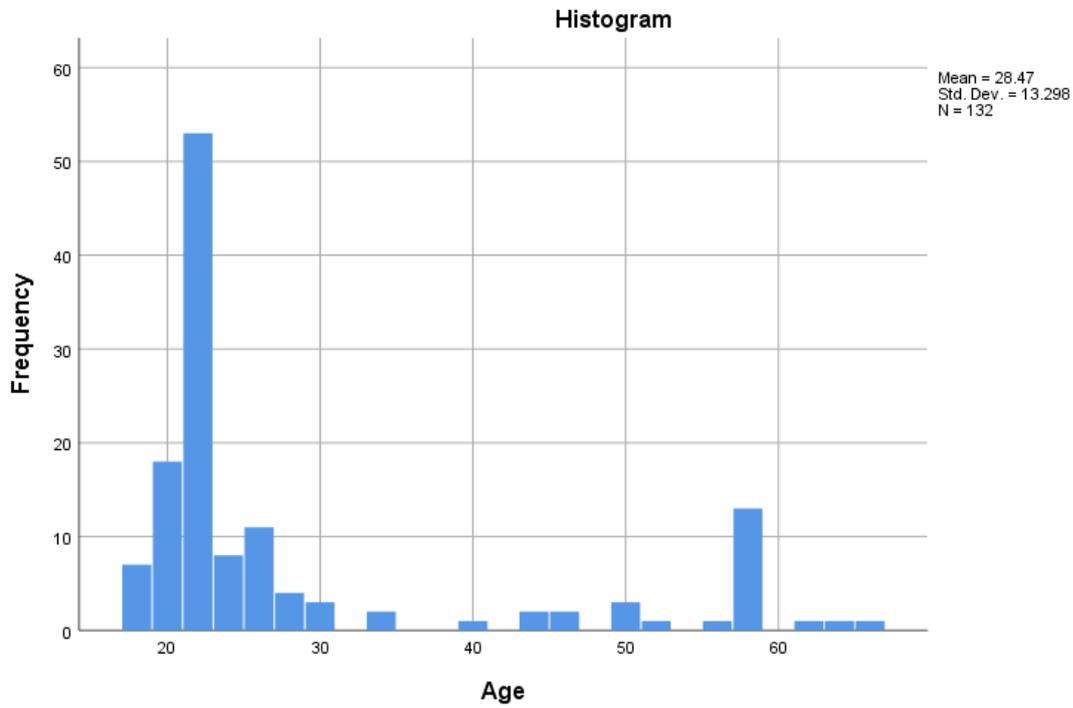
<https://spunout.ie/health/article/low-self-esteem/>

Telephone Services:

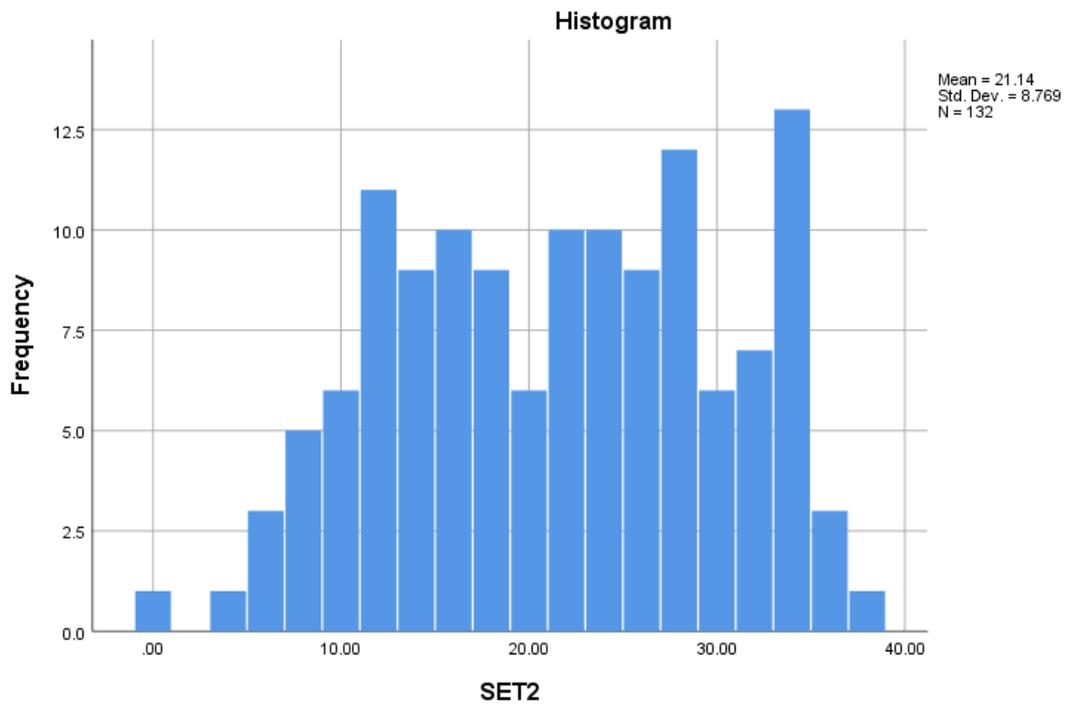
Samaritans Freephone: 116123

Samaritans Text: 0872609090 (standard text rates apply)

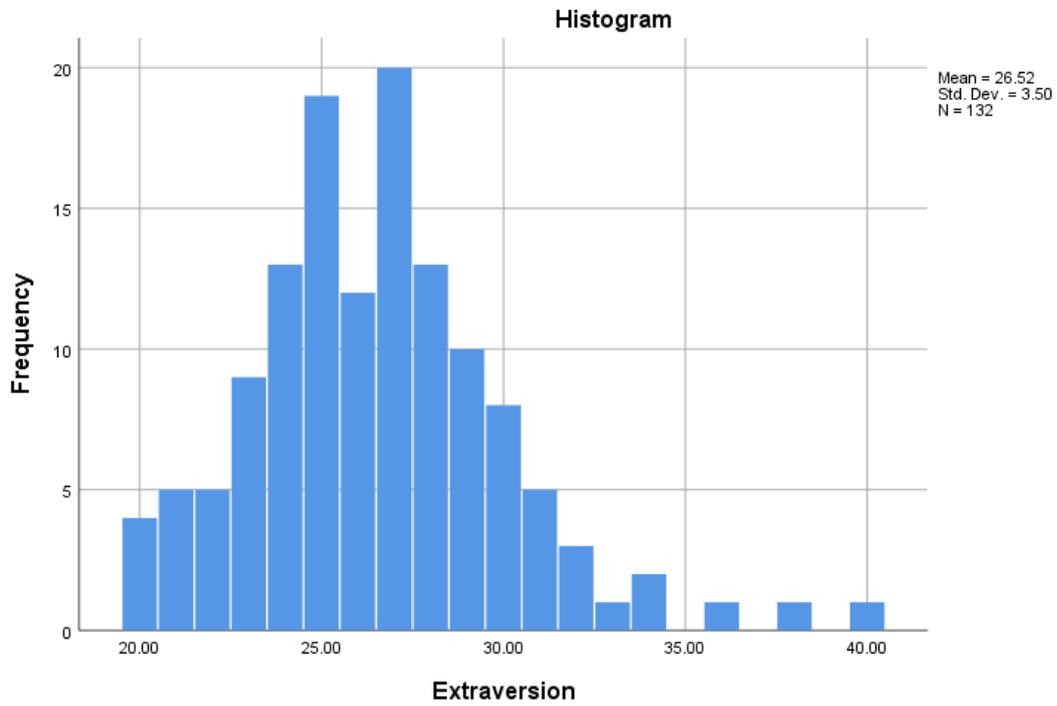
Appendix 8: Histogram for Assessment of Normality of Age



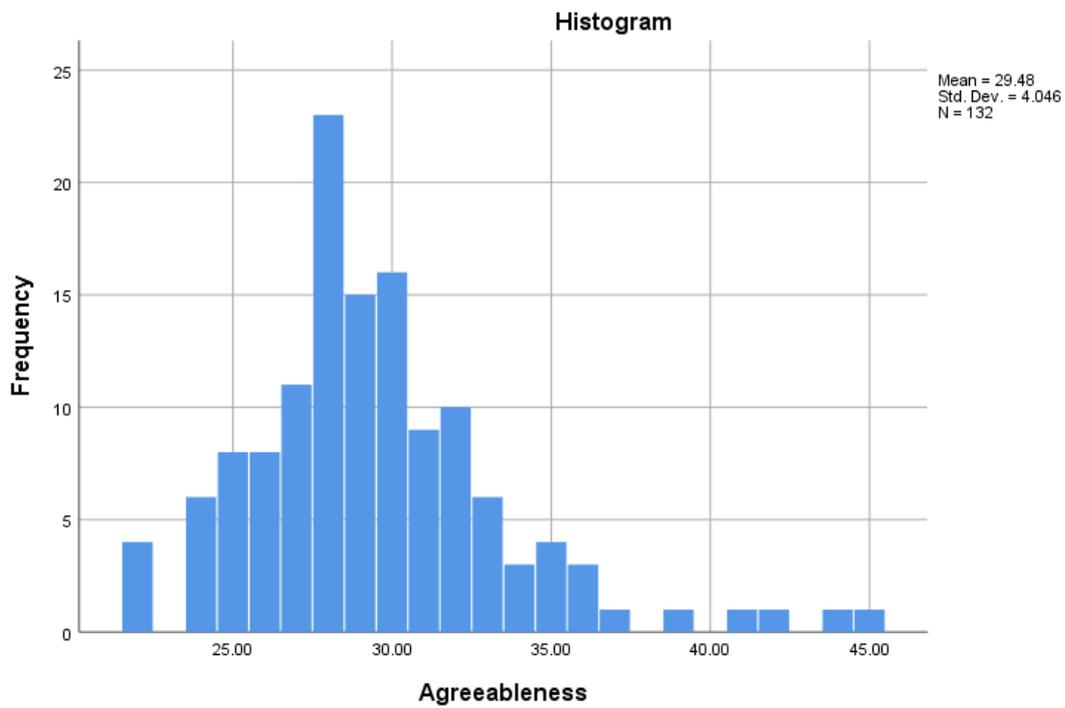
Appendix 9: Histogram for Assessment of Normality of Self-Esteem



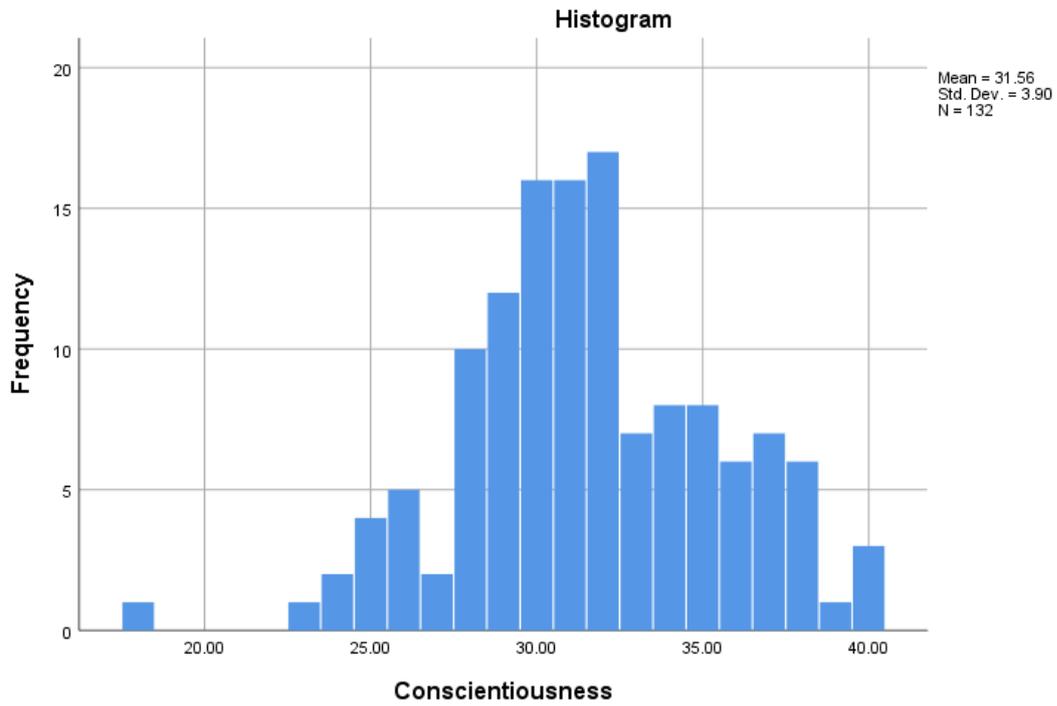
Appendix 10: Histogram for Assessment of Normality of Extraversion



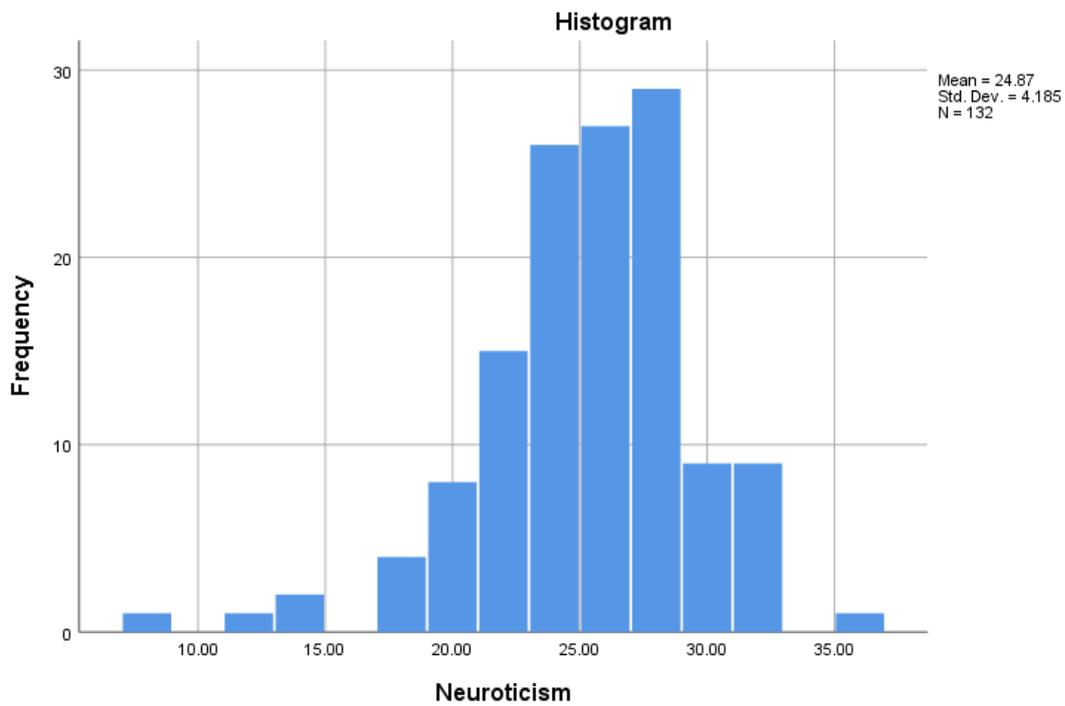
Appendix 11: Histogram for Assessment of Normality of Agreeableness



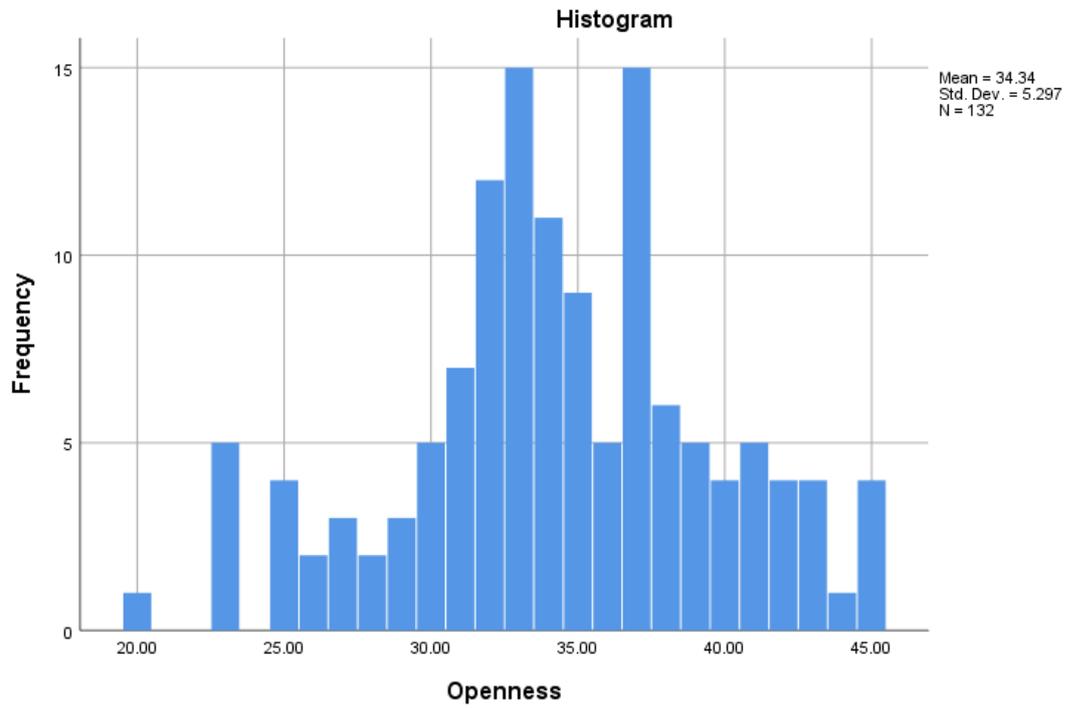
Appendix 12: Histogram for Assessment of Normality of Conscientiousness



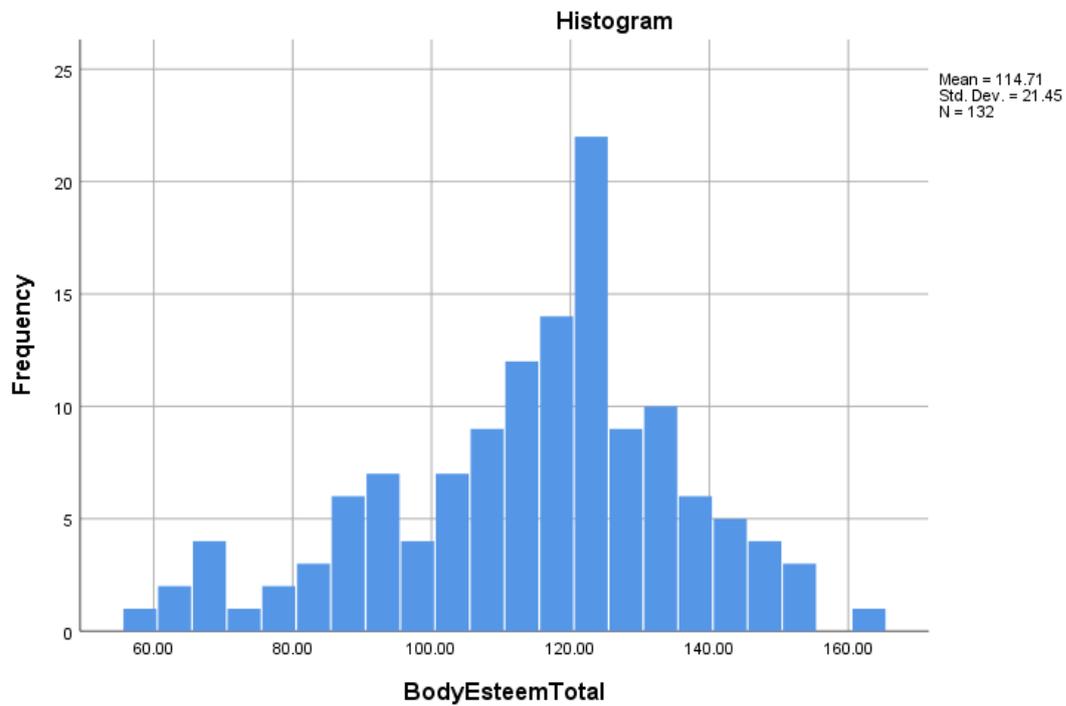
Appendix 13: Histogram for the Assessment of Normality of Neuroticism



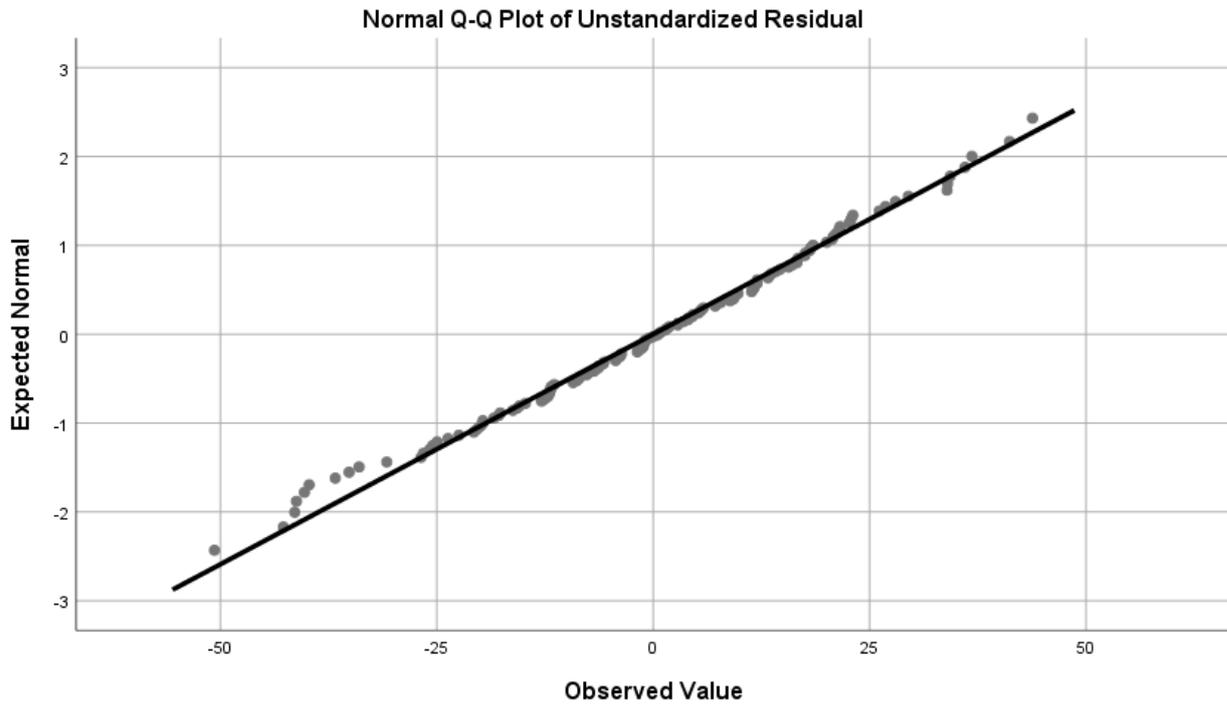
Appendix 14: Histogram Assessing the Normality of Openness



Appendix 15: Histogram Assessing the Normality of Body-Esteem



Appendix 16: Q-Q Plot Assessing Normality of Residuals for H1



Appendix 17: Correlations for all Predictor Variables for Hierarchical Multiple Regression for H1 and H2

Variables	1	2	3	4	5	6	7	8	9
Age	1	.20**							
Gender	.20*	1							
Extraversion	.08	-.05	1						
Agreeableness	.11	-.08	.40*	1					
Conscientiousness	.08	.11	.17*	.39*	1				
Neuroticism	-.26*	.04	-.13	-.20**	.13	1			
Openness	.12	-.03	.29*	.25*	.40*	.05	1		
Comparison	-.38*	.17	.06	-.02	.29*	.28*	.14	1	
Exposure	-.27*	.05	.09	-.01	.21**	.21**	.05	.58	1

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

Appendix 18: Q-Q Plot Assessing Normality of Residuals for H2

