An investigatory study of

stress, social anxiety, personality,

self-esteem and loneliness in relation to Facebook use.

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

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April 2013

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Table of contents

Acknowledgements

Abstract

Nearly half of the Irish population are using Facebook, this research focuses on Irish adults over 21 years old and addresses Facebook use and its relationship to self-esteem, social anxiety, loneliness, personality and stress. The total number of participants was 208 (152 female and 56 male). The snowball effect was used to generate participants from the Facebook community. This involved simple random sampling and a quantitative design using correlation. The questionnaire was created in Google Docs and contained demographic questions and two questions on stress as well questionnaires to assess the variables. The procedure involved participants receiving an email or an event request to join the survey on Facebook. Respondents were informed of the nature of the study and that is was confidential and they could withdraw at any time. The main results of the research found extraverts have more Facebook Friends. There was a significant relationship found between Facebook use and Perceived Stress on Facebook use as a way to avoid daily stressors and causing the user stress. Participants using Facebook have experienced stress from use and also use it to avoid daily stressors, this is prevalent in this research. More research is needed in the relatively unexplored area of stress and Facebook use.

Introduction

The recent growth of Facebook to over one billion users has given people a massive virtual stage on which they can perform. Facebook is easily accessible with more than half of the users using it on their mobile devices. Facebook's mission statement is "to give people the power to share and make the world more open and connected" (Facebook.com, 2012). Facebook users can add friends, update their status, share opinions, exchange messages both publically and privately, share photographs and their location and whomever they are with a that location. Facebook notifies the user if they have received any updates, this can be by email or a phone notification. Almost half the population of Ireland are Facebook users, with the majority between eighteen and forty four, 47% are male and 53% female. This thesis will focus on the adult Irish population of Facebook users. The majority of research in this area has been conducted on college student's which fall into the emerging adults category and my not have fully developed their identities. Emerging adults are working through education, friendships and romantic relationship development. Adults will deal with different issues and will have a greater understanding of them-selves and have more life experiences. Adults are more mature, master new material and consolidate what is already known. Irish adult's use of Facebook is a relatively unexplored area and with the 2,225,720 users it's worth an investigation. The negative change in the Irish economy has left many people without employment which affects many aspects of the individual's life including self-esteem and levels of loneliness. Women have been continuously heavier users of social networking sites, spending more time on the site and having more Facebook friends (Duff 2012).

Facebook is used in areas of relationship forming and satisfaction, identity construction and psychological and emotional well-being. Studies have shown that the use of social networking sites can be effective at building high quality friendships and have an over-all positive impact on ones well-being. Sheldon et al. (2011) found people engage in

Facebook use to avoid feelings of disconnection; it serves as a distraction from real world problems but will not remedy them. The core reason for Facebook use is information, friendship and communication (Bonds et.al.2010). Facebook provides the ideal environment for a "hoped for possible self" (Mehidizadeh, 2010, p358); this state emphasizes realistic socially desirable identities an individual would like to establish given the right circumstances (Mehdizadeh, 2010)

Research is building on the psychological aspects of Facebook use most of which has been centred on personality traits and the sample population has been a convenience sample of the student population. Research has produced inconsistent results on loneliness and self-esteem in relation to Facebook use; areas such as social anxiety and stress have had less investigation in terms of their role in the lives of users of Facebook. These areas are investigated in this study with a focus on Irish adult Facebook users. Facebook can fulfil curiosity and enhance social bond's, it can also cause stress and negative feelings. The question whether Facebook use is relieving stress or causing stress will be analysed. The research will investigate if lonelier people are using it more and if Facebook member's socially anxious people. The study will consider the Facebook users self –esteem levels and personalities.

Stress

Psychologists have been studying stress and its impact on psychological and physical health for several decades. Stress is a reaction to a stressor, negative emotional experience accompanied by predictable biochemical, physiological, cognitive and behavioural changes that are directed towards altering the stressful event or accommodating its effects (Taylor, 2009, P 147). How a potential stressor is perceived determines whether it will be experienced

as stressful. Stressors can include bad relationships, traffic, a job interview, noise and crowding. The study of stress has helped to explain the conditions that cause stress but focus on stressful events cannot fully explain the experience of stress. An experience may be stressful to one person and not to another. Stress is the consequence of a person's appraisal processes, the assessment of whether personal resources are sufficient to meet the demands of the environment, stress is determined by person-environment fit (Taylor, 2009, P147). When a situation is viewed as harmful, threatening or challenging stress occurs. The fight or flight response is a reaction to stress. When a perceived treat occurs the body is rapidly aroused and motivated via the sympathetic nervous system and the endocrine system, the body is ready to attack the treat or flee. Stress disrupts emotional and psychological functioning and when it continues it lays the groundwork for health problems.

Certain kinds of Facebook activity may cause a person stress and another may not be fazed by the same experience, the effects may cause users psychological and physical reactions such as anger, anxiety, impairment and depression. A teenager suffered an asthma attack caused by seeing pictures of his ex-girlfriend on Facebook after she had deleted him from her site. Mauri et al. (2011) revealed that Facebook use can evoke psychophysiological states characterized by high arousal and positive affect state. Participants underwent a three minute experience of three different conditions on the computer, their Facebook account, a relaxing scene and a stressor math problem. Their skin conductance, blood volume pulse, respiratory activity and pupil dilation were recorded.

Kim et al. (2009) found Facebook users may be less likely to deal with real world problems using online engagement as a form of avoidant coping. Happiness derived from the number of Facebook Friends may be due to visualisation of which reminds the user of their social connections and enhances self-worth. The act of positive self-presentation on Facebook may closely reflect people's tendency to hold positive beliefs about themselves from which

psychological benefits of self-enhancement are derived, these perceptions of self can help people cope with self-threatening or stressful situations, (Kim, 2011).

Charles et al. (2011) conducted a study with a 175 participants of university students at Edinburgh Napier University, findings showed a significant number of Facebook users suffer from Facebook related anxiety and stress. Facebook related anxiety and stress can involve pressure to keep up with updates and maintain the friendships, it can be generated from lack or response to status updates or messages sent to friends. Stress can occur from lack of control on what friends post about the Facebook user such as photographs and private information. Those who want to withdraw from the site feel they will miss social engagements and offend contacts. The research compared Facebook use to gambling where the user in a neurotic limbo, an unproductive period of waiting for something to happen that leads to anxiety and stress. In Facebook terms it's wondering whether to hang on in there just in case one misses out on something good. This can be linked to B.F.Skinner's (1938) theory on reinforcement, he believed that the best way to understand behaviour is to look at the causes of an action and its consequences. He introduced reinforcement, behaviour which is reinforced tends to be repeated or strengthened behaviour which is not reinforced tends to die out-or be extinguished or weakened. B.F. Skinner (1938) coined the term operant conditioning; it means roughly changing of behaviour by the use of reinforcement which is given after the desired response. Skinner identified three types of responses or operant that can follow behaviour, neutral operant: responses from the environment that neither increase nor decrease the probability of a behaviour being repeated. Reinforcers: Responses from the environment that increase the probability of a behaviour being repeated. Reinforcers can be either positive or negative. Punishers: Response from the environment that decreases the likelihood of a behaviour being repeated. Punishment weakens behaviour. Skinner showed how positive reinforcement worked by placing a hungry rat in his Skinner box. The box

contained a lever in the side and as the rat moved about the box it would accidentally knock the lever. Immediately it did so a food pellet would drop into a container next to the lever. The rats quickly learned to go straight to the lever after a few times of being put in the box. The consequence of receiving food if they pressed the lever ensured that they would repeat the action again and again. Positive reinforcement strengthens a behaviour by providing a consequence an individual finds rewarding. The removal of an unpleasant reinforcer can also strengthen behaviour. This is known as Negative Reinforcement because it is the removal of an adverse stimulus which is 'rewarding' to the animal. Negative reinforcement strengthens behaviour because it stops or removes an unpleasant experience. Facebook provides reinforcement both positive and negative, an example is posting status updates and receiving a positive response of many friends liking it, or the opposite of receiving no response.

Charles et al. (2011) compares the stress with performance pressure; results showed the more friends the users had the more they viewed Facebook as stressful. 63% delayed responding to friends requests, 32% had feelings of guilt and discomfort rejecting friend requests, 12% disliked friend requests and more than 10% said that Facebook made them feel anxious. There are certain limitations to this study being that the sample was not very diverse and was a convenience student sample and may not reflect the population of Facebook users.

Self-Esteem

Self-esteem is defined as a person's overall evaluation of his or her worth. Implicit self-esteem is an automatic unconscious self-evaluation and explicit self-esteem is more conscious, reflective self-evaluation. Regardless of the type all humans have a need to raise or maintain self-esteem. It is likely that people with low self-esteem will engage more in online activities which may increase self-esteem. Research on the subject has produced mixed results. Mehdizadeh (2010), discovered narcissists and people with lower self-esteem were more likely to spend more than an hour a day on Facebook and were more prone to post

self-promotional photos such as striking a pose or using Photoshop. Self-esteem and narcissism are often interrelated but don't always go hand in hand. Some psychologists believe that narcissists, those who have a pervasive pattern of grandiosity, a need for admiration, as well as a lack of empathy, unconsciously inflate their sense of self-importance as a defence against feeling inadequate. Not enough empirical research has been produced to confirm that link, although Mehdizadeh's study seems to support it. Because narcissists have less capacity to sustain intimate or long-term relationships, Mehdizadeh thinks that they would be more drawn to the online world of virtual friends and emotionally detached communication. Mehdizadeh (2010) notes that social-networking sites might ultimately be found to have positive effects when used by people with low self-esteem or depression.

Internet users who avoid face to face interaction or who find it less rewarding found the internet a more favourable and lower risk vehicle for developing interpersonal relationships (Ellison et al. 2007).Correlation analysis of self-esteem and narcissism revealed individuals higher in narcissism and lower in self-esteem were related to greater online activity, results indicated a significant negative correlation self-esteem and Facebook activity, Individuals who rated lower on the Rosenberg Self-Esteem Scale were correlated with more amount of time on Facebook and logged in more often (Mehdizadeh, 2010).

Gonzales & Hancock (2011) outlined that previous studies showed Facebook activity can enhance social self-esteem, measured as perception of one's physical appearance, close relationships and romantic appeal especially when users received positive feedback from Facebook friends. Facebook can affect temporal states of self-esteem. The design of sharing info about self could make one aware of shortcomings. The results of this study showed that by becoming self-aware by viewing one's own Facebook profile, self-esteem as enhanced rather than diminished, participants that updated their profiles and viewed their own profiles during the experiment also reported greater self-esteem.

Kramer and Winter (2008) researched self-esteem, self- efficacy and extraversion with regard to impression management within social networking sites and found no relationship between self-esteem and self-presentation on social networks. This is in line with Marcus et al. (2006) even though a different scale for assessment of self-esteem was used. In a study of 96 Facebook users from the general population, with the majority aged between 18 and 30, Miliano (2012) found no significant correlation between patterns of Facebook usage and self-esteem. Similarly Duff's (2012) findings from 188 participants, of which 109 were female, revealed a negative correlation between self-esteem and Facebook use but the findings were not significant, the drawback considered in this case was the participants idea that the questionnaires were not completely confidential and this may have skewed their responses to the self-esteem questions because results were relatively high.

Social Anxiety

Social anxiety is the fear of social situations and the interaction with other people that can automatically bring on feelings of self-consciousness, judgment, evaluation, and inferiority. Social anxiety disorder is characterised by a marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or possible scrutiny by others. Facebook is a medium that can leave users open to scrutiny by other users. Richards (2012) from the Social Anxiety Institute highlights that social anxiety is a fear of being judged and evaluated negatively by other people, leading to feelings of inadequacy, embarrassment, humiliation and depression. Social anxiety disorder (formerly termed "social phobia") is a much more common problem than past estimates have led us to believe. Millions of people all over the world suffer from this devastating and traumatic problem every day, either from a specific social anxiety or from a more generalized social anxiety. In the United States, epidemiological studies have recently pegged social anxiety

disorder as the third largest psychological disorder in the country, after depression and alcoholism. A specific social anxiety would be the fear of speaking in front of groups, whereas people with generalized social anxiety are anxious, nervous, and uncomfortable in almost all social situations. It is much more common for people with social anxiety to have a generalized type of this disorder. When anticipatory anxiety, worry, indecision, depression, embarrassment, feelings of inferiority, and self-blame are involved across most life situations, a generalized form of social anxiety is at work. People with social anxiety disorder usually experience significant emotional distress in the following situations, being introduced to other people, Being teased or criticized, Being the centre of attention, Being watched while doing something, Meeting people in authority, Most social encounters, especially with strangers. The physiological manifestations that accompany social anxiety may include intense fear, racing heart, turning red or blushing, excessive sweating, dry throat and mouth, trembling, swallowing with difficulty, and muscle twitches, particularly around the face and neck. Constant, intense anxiety that does not go away is the most common feature. Cognitive-behavioural therapy for social anxiety has been markedly successful.

When Facebook users post status updates and opinions they are open to being judged by others. The amount and type of feedback received from friends could lead to those negative feelings. This research will outline if people using Facebook are socially anxious.

In virtual social interactions those with lower self-esteem and higher social anxiety in real life spend more time on the internet, perhaps seeking connections or distraction, but in fact more likely to have fewer friends than those who thrive interpersonally in the real world (Kraut et al. 2002). In a longitudinal study over 1 year of 406 new computer owners Kraut et al. (1998) found the participants generally experienced positive effects of the internet on communication, social involvement and well-being. The use by extraverts had better outcomes for social support but worse outcomes for introverts and those with less support.

The relevance of this study may be questionable now because of the vast changes in social networking since in the nineties.

Sheeks and Birchmeier (2007) showed that a preference for mediated communication is connected to shyness and is in line with findings that people with social anxieties have increased need for control that can be satisfied more easily in asynchronous communication. 207 undergraduate students in a US Midwestern University participated in a study to test the notion that Facebook use is associated with increased friendship quality for shy individuals, Baker and Oswald's (2010) results showed that Facebook was positively associated with satisfaction, importance and closeness with Facebook friends for relatively shy individuals. The convenience sample used was limiting because participants were homogeneous in age and ethnicity.

Wilson et al. (2010) found no evident link between social networking and neuroticism and self-esteem attributed to concerns held by socially anxious people about being in the public domain. The participants were young people aged 17 to 24 years old. Analysis showed that users do not differ in most personality traits to non-users of Facebook.

Loneliness

Facebook offers a gateway for shallow relations and emotionally detached communication. Baragh and McKenna (2004) outlined that it maybe that those who feel lonely, lack close ties in the real world and could benefit from the ready-made support network provided by Facebook. Peplau and Perlman (1982) stated that there are themes that underlie virtually all definitions of loneliness. Loneliness results from deficiencies in the lonely person's social relationships. Loneliness is ultimately conceptualised as an internal and subjective psychological experience and therefore not identical to physical isolation or solitude. Loneliness is an unpleasant and distressing psychological condition which

stimulates efforts to overcome it. Lettenberg (1990) found excessive use of the internet was associated with loneliness.

Kraut et al. (1998) researched the social and psychological impact of the internet on 169 people in 73 households during their first one to two years online. This longitudinal study of social involvement and psychological well-being resulted in positive internet use for communication; nonetheless the greater use of the internet was associated with declines in participant's communication with family members in the household and declines in the size of their circle and increases in depression and loneliness.

Morahan- Martin et al. (2003) lonely individuals may be drawn online because of the increased potential for companionship as a way to modulate negative moods associated with loneliness. Anonymity and lack of the face to face communication online may decrease self-consciousness and social anxiety which could facilitate pro-social behaviour and enhance online relationship formation. Support for this theory was found in their survey of 277 undergraduate internet users to assess the differences between lonely and non-lonely individuals in patterns of internet use. Loneliness was assessed on the UCLA Loneliness Scale. Lonely individuals used the internet and email more and were more likely to use the internet for emotional support, they also made more online friends, used the internet to modulate negative moods and to report the internet was causing them disturbances in their daily functioning. There was no difference in the lonely and non-lonely in terms of the number of months they had been using the internet, the two groups did differ significantly in the average weekly hours online, with lonely users reporting greater use than non-lonely users. Lonely people use it to relax, work, meet people, for emotional support, to waste time and to talk to people with similar interests.

Ryan and Xenos (2011) widened the population of the sample to ages 18 to 44 in a study of 1324 Australian internet users, 1158 were Facebook users and 166 non users. This

distribution may have impacted results but research showed users are more extraverts and narcissistic but had stronger feelings of family loneliness. Facebook non users had greater levels of loneliness than users; lonely people engage more in passive activities on Facebook such as browsing photographs.

Personality

The scientific study of personality continues to address the question of why we are the way we are, in trying to answer this question we have to be aware of the complexity of human behaviour, people are alike in many ways yet different in many other ways. Out of the maze of complexity we seek to find order and meaningful relationships. Personality theorists are concerned with individual differences, they recognise that people are similar in some ways but psychologists interested in personality are particularly concerned with the ways people differ from one another. How the different aspects of an individual's functioning are intricately related to each other in the total person is an area of interest for personality theorists. The study of personality focuses not only on the psychological processes but also on the relationships among the processes, people function as an organised whole.

According to Pervin and John (1996) "*Personality represents those characteristics of the person that account for consistent patterns of feeling, thinking and behaving* " This is a very broad definition that allows focus on many different aspects of the person but at the same time it suggests a focus on the many different aspects of the person. The scientific exploration of personality involves systematic efforts to discover and explain regularities in the thoughts, feelings, and overt behaviours of people are they lead their daily lives.

Many researchers have used the Neo- Five Factor Inventory by Costa and Mc Crae to measure different personality traits. This scale recognises Neuroticism which contrasts emotional stability with a broad range of negative feelings including anxiety, sadness,

irritability and nervous tension. Openness to experience describes the breadth, depth and complexity of an individual's mental and experimental life. Extraversion and Agreeableness both summarize traits that are interpersonal and Conscientiousness primarily describes task and goal directed behaviour and socially required impulse control.   The focus of this research is on extraversion (warmth, gregariousness, assertiveness, activity, excitement seeking and positive emotions) the most prevalent trait in Facebook use and personality research. Ozer and Benet-Martinez (2006) research supported a significant relationship between personality traits and social behaviour, noting that the body of literature in this area supports for the traits extraversion and neuroticism as two if the more predictors of social relationship outcomes.

The traits in the Big Five have been shown to explain the nature and extent of social behaviour on the internet, traits extraversion, openness and neuroticism have been shown to explain social behaviour on Facebook (Correa et al. 2010). Amichai- Hamburger and Vinitzky (2010) concluded that for Facebook use higher extroversion was associated with increased social behaviour, higher neuroticism was associated with less self-disclosure, and that openness was associated with more expressive communication. This general trend has been shown for offline social behaviour as well. Wilson et al (2010) tested the role of personality and self-esteem in young adults and their levels of social networking. The participants were students from an Australian University and 201 participants were involved in the study. Higher levels of Facebook use and addictive tendencies were found in extroverted people, extroverts need unlimited contact with the virtual world and friends for a high stimulation and large social network. Those who scored low on conscientious spent an increased about of time on Facebook, reasoning behind this may be due to time wasting on Facebook instead of studying. Openness, agreeableness and neuroticism were found to have no impact on Facebook use. (Wilson et al, 2010).

Seidman (2013) examined the relationship between the Big Five and the use of Facebook to fulfil belonging and self-presentational needs. One hundred and eighty four undergraduates completed a survey assessing personality and Facebook behaviours and motivations. High agreeableness and neuroticism were the best predictors of belongingness-related behaviours and motivations. Extraversion was associated with more frequent use of Facebook to communicate with others. Self-presentational behaviours and motivations were best predicted by low conscientiousness and high neuroticism. Results suggest that conscientious individuals are cautious in their online self-presentation. Neuroticism, agreeableness, and extraversion were positively associated with the tendency to express one's actual self. Neuroticism was positively associated with the expression of ideal and hidden self-aspects. The motivation to express these self-aspects mediated the relationship between neuroticism and self-disclosure.

Contrasting results for extraversion were found in Skues et al (2012) study examining the relationship between three of the "Big Five" traits (neuroticism, extraversion, and openness), self-esteem, loneliness and narcissism, and Facebook use. Participants were 393 first year undergraduate psychology students from a medium-sized Australian university who completed an online questionnaire. Negative binomial regression models showed that students with higher openness levels reported spending more time on Facebook and having more friends on Facebook. Students with higher levels of loneliness reported having more Facebook friends. Extraversion, neuroticism, self-esteem and narcissism did not have significant associations with Facebook use. It was concluded that students who are high in openness use Facebook to connect with others in order to discuss a wide range of interests, whereas students who are high in loneliness use the site to compensate for their lack of offline relationships.

Rationale

Due to the massive popularity in Facebook and decline in other media this study will focus on the types of Irish people using Facebook and if it is beneficial to their lives. This questionnaire study will determine if there is a correlation between Facebook use and self-esteem, social anxiety, stress, personality and loneliness.

The demographics will include age, gender and questions on whether Facebook is used to relieve stress or causes the user stress. The population of interest is Irish adults over twenty one years old the reason for this is most of the participants in Facebook usage studies have been university students and as emerging adults they may not have fully established their identities, there has been little research on Irish users and with almost half the population using it, some understanding of the users is needed. Previous research shows inconsistent results for loneliness and self-esteem in Facebook use. This research will address whether using a more mature sample will produce significant results of a correlation of less Facebook use for participants to have lower self- esteem and more Facebook use for those participants who are lonely. The question of whether Facebook is relieving or causing stress will be addressed and whether Facebook users have high levels of social anxiety. Given the extensive research on personality and Facebook use, extroversion and introversion will be explored in terms of the Irish population. The remaining factors such as neuroticism, openness and conscientiousness have not proven to have any major impact on Facebook use and will not be investigated extensively.

Hypothesis 1

There will be a significant positive correlation between Facebook use and loneliness.

Hypothesis 2

There will be a significant positive correlation between Facebook use and self-esteem

Hypothesis 3

There will be a significant negative correlation between Facebook use and social anxiety

Hypothesis 4

There will be a significant positive correlation between Facebook use and perceived stress levels.

Hypothesis 5

There will be a gender differences and an age difference in the amount of hours spent on Facebook

Hypothesis 6

There will be a significant difference in Facebook usage as a stress relieving tool or a stress inducer in highly stressed participants.

Hypothesis 7

There will be a significant relationship between extroverts and the amount of Facebook friends.

Hypothesis 8

There will be a significant difference between extroversion and introversion on the amount of time spent on Facebook.

Methodology

Participants

The participants are Irish Facebook users over twenty one years old. The total number of participants was 208 (152 female and 56 male).The snowball effect was used by emailing contacts individually on Facebook. A public event page was set up on Facebook and users were invited to take part in the questionnaire. This involved simple random sampling of the population of the Irish Facebook users. Inclusion criteria was Facebook users over twenty one years old, the aim of this is to survey adults rather than emerging adults which have been involved in most Facebook research. Participants were all Irish because there has been little research of the 2,282,480 Irish Facebook users. Exclusion Criteria is Facebook users under the age of twenty one and that are not Irish. Participants aged ranged from 21-63 years old with a mean age of 33 years old. Participants were asked to volunteer to fill out the questionnaire and no incentives were used.

Design

The design of this research was a quantitative design using correlation. Correlation was used to find a relationship between variables, Facebook use, self-esteem, stress, loneliness, personality and social anxiety. There will be three possible results of the correlation, no correlation, positive correlation and negative correlation. In this descriptive study the variables include Facebook use, self-esteem, stress, loneliness, personality and social anxiety. The predictor variable is Facebook use and the Criterion variables include self-esteem, stress, loneliness, personality and social anxiety. Independent variables include age and gender and dependent variable is Facebook use. It is important to note that Facebook use is not time spent on Facebook is the connectedness and individual importance of the site to a user's life.

Materials

A questionnaire was created in Google Docs and contained the following questionnaires and required additional information on age and gender of the participant and whether Facebook had caused them stress of if they use Facebook to escape from daily stressors.

To measure self-esteem in Facebook Users the Rosenberg Self-esteem Scale (Rosenberg, 1965) was used. The purpose of the 10 item RSE scale is to measure self-esteem. Originally the measure was designed to measure the self-esteem of high school students. However, since its development, the scale has been used with a variety of groups including adults. The RSE is a Guttmann scale, scoring involves a method of combined ratings. According to Ciarrochi (2006) the RSE correlates significantly with other measures of self-esteem, including the Coppersmith Self-Esteem Inventory. In addition, the RSE correlates in the predicted direction with measures of depression and anxiety. Participants were expected to answer whether they strongly agree, agree, disagree, or strongly disagree with the statements which included "*On the whole, I am satisfied with myself*" and "*I feel 1do not have much to be proud of*". The items are scored some of which are reverse scored, all items are scored and the higher the total the greater the participants self-esteem.

The Facebook Intensity Scale (Ellison et.al 2007) is used to measure Facebook usage beyond simple measures of frequency and duration, incorporating emotional connectedness to the site and its integration into individuals' daily activities. There are ten scale items that include questions such as "*Facebook is part of my everyday activity*" and "*I feel out of touch when I haven't logged onto Facebook for a while*". Response categories range from 1 = strongly disagree to 5 = strongly agree. The scale is computed by calculating the mean of all the items in the scale.

The UCLA Loneliness Scale (Russell, 1996) will be used to measure loneliness levels in Facebook users. Russell, D. (1996) evaluated the psychometric properties of the UCLA Loneliness Scale using data from prior studies of college students: nurses, teachers, and the Elderly, analyses of the reliability, validity, and factor structure of this new version of The UCLA Loneliness Scale was conducted. Results indicated that the measure was highly reliable, both in terms of internal consistency (coefficient a ranging from .89 to .94) and test-retest reliability over a 1-year period (r = .73). There were significant correlations with other measures of loneliness and significant relations with measures of the individual's interpersonal relationships, and correlations between loneliness and measures of health and well-being. The UCLA Loneliness Scale consists of 10 items and participants are asked to indicate how often each of the statements was descriptive of them. O indicates "I often feel this way", S indicates "I sometimes feel this way", R indicates "I rarely feel this way" and N indicates "I never feel this way". The questions include "*how often do you feel unhappy doing so many things alone?*" and "*How often do you find yourself waiting for people to call or write?*" Points are assigned to each answer and are computed by the scores added together. Scores between 15 and 20 are considered a normal experience of loneliness. Scores above 30 indicate a person is experiencing severe loneliness.

Perceived Stress Scale (Cohen et.al, 1983) will be used to measure stress levels of Facebook Users. The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. The items are designed to access how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct questions about current levels of experienced stress. Cohen

(1994) outlined the PSS was designed for use in community samples with at least a junior high school education. The items are easy to understand, and the response alternatives are simple to grasp. The questions in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked how often they felt a certain way. Evidence for validity has been found by Cohen (1994) where failure to quit smoking and failure among diabetics to control blood sugar levels was associated with higher PSS scores. Participants are required to answer questions such as "*In the last month, how often have you been upset because of something that happened unexpectedly*" and "*In the last month, how often have you felt confident about your ability to handle your personal problems*". The responses include, never, almost never, sometimes, fairly often and very often. The PSS is computed are by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items.

Social Activities and Distress Scale (Watson & Friend, 1969) will be used to measure social anxiety in Facebook users. The SADS uses a questionnaire including 28 true/false items. This instrument was developed to quantify social anxiety. Two aspects of anxiety are measured including four experiences such as distress, discomfort, fear, anxiety and the avoidance of social situations. The SADS uses social situations in the questioning such as *"I feel relaxed even in unfamiliar social situations"* and *"I find it easy to relax with other people"*. Participants respond about how they feel in those situations by indicating if this statement is true or false. The SADS has been valued at high reliability with its internal consistency at .94 and the test-reliability ranging from .68.Watson and Friend (1969) used SADS on a sample of student groups, SADS correlation rating with the State-Trait Anxiety Inventory was moderately high.

Big Five Inventory -10 (BFI-10) (Rammstedt & John, 2007) The BFI-10 is an abbreviated version of the well-established BFI, consisting of 10 items which were to be

answered on a five-point Likert-type scale ranging from disagree strongly to agree strongly. The BFI-10 assesses the Big Five dimensions of personality using two items for each dimension. Respondents are required to answer how well the statements describe their personality. The items include "*I see myself as someone who is reserved*" and "*I see myself as someone who tends to be lazy*". Scoring the BFI-10 scale involves reverse scoring items 1,3,4,5 and 7. The personality characteristics outlined in the BFI-10 are extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. To compute scale scores for the BFI-10 dimensions the five inverse coded items were recoded. Afterwards, each two items assessing one dimension were averaged.

Procedure

Participants received an email or an event request on Facebook to partake in the questionnaire. A link to the questionnaire was provided and once participants clicked on that they were brought to the instructions and reason for the research. Participants were assured all information is confidential and that they are free to withdraw from the research at any time. Links to the support websites were provided for anyone who was affected by the topics. Participants then answered 82 questions which took approximately 10 minutes and then submitted the questionnaire to Google Docs.

Results

Descriptive statistics.

All statistics were computed on SPSS 18 for windows. Table 1 outlines the total number of respondents were 208 (56 male and 152 female).Participants had a mean age of 33 years old ranging from 21-63 years old (table.2)

Table 1. *Frequency and percent for gender of respondent.*

	Frequency	Percent
Male	56	26.9
Female	152	73.1
Total	208	100.00

Table 2. *Mean, Std. Deviation, Variance, Range, Minimum and Maximum age of respondent*

N	Valid	208
	Missing	0
	Mean	33.58
	Std .Deviation	6.71
	Variance	45.06
	Range	42
	Minimum	21
	Maximum	63

Participants were asked if Facebook had ever caused them stress to which 34.6% agreed it had and 65.4% had not experienced Facebook related stress. When asked if they used Facebook to avoid daily stressors 40.4% of participants agreed and 59.6% of participants do not use Facebook to avoid daily stressors. (Table 3).

Table 3. *Frequency and percent of Facebook Stress.*

		Frequency	Percent
Caused Stress	Yes	72	34.6
	No	136	65.4
	Total	208	100
Avoid Stress	Yes	84	40.4
	No	124	59.6
	Total	208	100

Respondents were asked how many Facebook friends they had. Table 4 outlines that 1.9% had 10 friends or less and 15.4% of participants had more than 400 Facebook Friends. Table 5 shows the total amount of time participants are actively using Facebook per day. Results show 8.2% are using Facebook for up to 14 minutes per day, 41.8% are actively using Facebook 1-2 hours a day and 6.7% of respondents are actively using Facebook for more than 8 hours a day.

Table 4. *The frequency and percentage of Facebook friends.*

	Frequency	Percentage
10 or less	4	1.9
11-50	13	6.3
51-100	23	11.1
101-150	28	13.5
151-200	32	15.4
201-250	21	10.1
251-300	17	8.2
301-400	30	14.4
more than 400	32	15.4
Total	200	96.2

Table 5 *The frequency and percentage of time spent actively using Facebook.*

	Frequency	Percentage
Time.		
0-14mins	17	8.2
15-29mins	18	8.7
30-59mins	36	17.3
1-2 hours	87	41.8
3-4 hours	15	7.2
5-6 hours	6	2.9
7-8 hours	4	1.9
8+ hours	14	6.7
Total	197	94.7
Missing	11	5.3
Total	208	100.0

The following tables (6-11) outline the Means and Standard Deviations for the variables used in the analysis and outline the differences in scores between males and females. Table 6 highlights participants scores on the Rosenberg Self-Esteem Scale showing men having higher self-esteem (mean=37.62, SD=8.91) than women (mean=35.84, SD=8.61). The minimum self-esteem level for men was 18 and a lower level of 10 for woman.

Table 6. *The Mean and Standard Deviation for Self-Esteem scores.*

	N	Min	Max	Mean	SD
Male total Self-Esteem	55	18	50	37.62	8.91
Female total Self-Esteem	147	10	50	35.84	8.61

The scores for The Facebook Intensity scale show more usage and connectedness to the site for woman (mean=3.82, SD=.91) than men (mean=3.50, SD=.87). Results are shown in table 7.

Table 7. *The Mean and Standard Deviation for Facebook usage scores.*

	N	Min	Max	Mean	SD
Male total Facebook use	51	1	5	3.50	.91
Female total Facebook use	134	2	6	3.82	.87

Table 8 shows the extraversion levels for males and female Facebook users, The scores indicate that males are higher in extraversion but both sexes had the same min and max score.

Table 8. *The Mean and Standard Deviation for extraversion scores.*

	N	Min	Max	Mean	SD
Male total BFI-10	55	3	10	7.07	1.84
Female total BFI-10	147	3	10	6.56	1.75

Table 9 shows woman have more perceived stress in the last month (mean=16.60, SD=6.87) than men (mean=12.87, SD=6.16). The women's maximum perceived stress is higher at 38 than men's at 28.

Table 9. *The Mean and Standard Deviation for Perceived Stress scores.*

	N	Min	Max	Mean	SD
Male total Perceived Stress	54	2	28	12.87	6.16
Female total Perceived Stress	131	4	38	16.60	6.87

The Social Activities and Distress scores show females are higher in social anxiety and distress (mean=8.57, SD=8.57) than males (mean=6.19, SD=6.48), table 10 outlines results also showing the female maximum distress is 27 compared to the males of 25.

Table 10. *The Mean and Standard Deviation for Social Activities and Distress.*

	N	Min	Max	Mean	SD
Male total SADS	47	0	25	6.19	6.48
Female total SADS	118	0	27	8.99	8.57

Table 11 highlights the scores for participants experience of loneliness, Females are experiencing higher levels of loneliness with the mean in the severe loneliness levels (mean=22.23, SD=7.53) and males experiencing a normal level of loneliness (mean=19.36, SD=7.25).

Table 11. *The Mean and Standard Deviation for UCLA Loneliness score.*

	N	Min	Max	Mean	SD
Male total Loneliness	50	10	37	19.36	7.25
Female total Loneliness	142	10	40	22.23	7.53

Inferential Statistics

The inferential statistic results outlined below outline the results of the research hypotheses. A significant relationship was found between extraverts and the amount of Facebook friends. There was significant results for Facebook use and perceived stress in relation to Facebook being used to avoid daily stressors and also Facebook causing stress.

Hypothesis 1 predicted that there will be a significant positive correlation between Facebook use and loneliness. A Spearman's rho correlation found that there was no significant association between loneliness and Facebook usage (rs (169) = 0.42, p=.587).

Hypothesis 2 predicted that there will be a significant positive correlation between Facebook use and self-esteem. An inverse relationship between self-esteem and Facebook use was found. A Spearman's rho correlation found that there was no significant association between self-esteem and Facebook usage (rs (180) = -0.25, p=.735).

Hypothesis 3 predicted that there will be a significant negative correlation between Facebook use and social anxiety. A Spearman's rho correlation found that there was no significant relationship between social anxiety and Facebook usage (rs (146) = 0.69, p=.406).

Hypothesis 4 predicted that there will be a significant positive correlation between Facebook use and perceived stress levels. A Spearman's rho correlation found that there was no significant correlation between perceived stress levels and Facebook usage (rs (164) = .117, p=.136).

Hypothesis 5 predicted that there will be a gender differences and an age difference in the amount of hours spent on Facebook. Females (mean=3.82), sd =1.70) spent less time using Facebook than males (mean=3.96, sd=1.64). The confidence limits show that the population mean difference of the variables lies somewhere between -.387 and .676. An independent samples t-test found there was no significant difference between males and

females (t (195) =.537, p=.592) and the amount of time they spend on Facebook. There was a negative relationship between participant's age and the time they spent on Facebook, however a Spearman's rho correlation found that there was no significant correlation between these variables. (rs (197) = -.136, p=.057).

Hypothesis 6 predicted that there will be a significant difference in Facebook usage as a stress relieving tool or a stress inducer in highly stressed participants. A Spearman's rho correlation found that there was a strong significant correlation between perceived stress and using Facebook to avoid daily stressors (rs (185) = -.345, p=.001) and a strong significant correlation between perceived stress and Facebook causing participants stress (rs (185) = -.273, p=.001).There is a significant relationship between Facebook causing stress and Facebook use (rs (185) = -.169, p=022).There is a significant relationship on Facebook usage to avoid daily stressors (rs (185) = -.271, p=001). Results are outlined in Table 12.

Table 12.*Spearman's rho correlation of Facebook use, Perceived stress and Stress.*

Facebook use /avoid stress		
Correlation Coefficient	-.271
Sig (2-tailed)	.000
N	185
Facebook use /cause stress		
Correlation Coefficient	-.169
Sig (2-tailed)	.022
N	185
Facebook stress /PSS		
Correlation Coefficient	-.273
Sig (2-tailed)	.000
N	185
Facebook to avoid stress / PSS		
Correlation Coefficient	-.345
Sig (2-tailed)	.000
N	185

Hypothesis 7 predicted that there will be a significant relationship between extroverts and the amount of Facebook friends. A Spearman's rho correlation found that there was a

strong significant correlation between extraverts and their amount of friends on Facebook. (rs (194) = .208, p=.001).

 Hypothesis 8 predicted that there will be a significant difference between extroversion and introversion on the amount of time spent on Facebook. There was a negative relationship between variables, however a Spearman's rho correlation found that there was no significant correlation between extraverts and the amount of time spent on Facebook. (rs (191) = -0.81, p=266).

Additional analysis

In addition to the hypotheses this study produced some significant result in relation to stress, which are highlighted below in table 13. These result are worth inclusion considering the limited research on stress and social networking. Participants were asked if Facebook had ever caused the stress or if they use Facebook to avoid daily stressor.

Table 13. *Additional analysis of Facebook stress*

Facebook Friends /cause stress	
Correlation Coefficient	-.239
Sig (2-tailed)	.001
N	200
Social anxiety /cause stress	
Correlation Coefficient	-.229
Sig (2-tailed)	.003
N	165
Social anxiety/ avoid stress	
Correlation Coefficient	-.195
Sig (2-tailed)	.012
N	165
Loneliness/cause stress	
Correlation Coefficient	-.224
Sig (2-tailed)	.002
N	192
Loneliness/avoid stress	
Correlation Coefficient	-.193
Sig (2-tailed)	.007
N	192
Self Esteem/cause stress	
Correlation Coefficient	.234
Sig (2-tailed)	.001
N	202

Discussion

The aim of this study was to determine if there was is a correlation between Facebook use and self-esteem, social anxiety, stress, personality and loneliness. Additional factors were considered such as age, gender and questions on whether Facebook is used to relieve stress or causes the user stress. The population of interest is Irish adults over twenty one year's old to investigate whether targeting a more mature sample will produce significant results on the variables. A significant relationship was found between extraverts and their amount of Facebook friends. There was significant results for Facebook use and perceived stress in relation to Facebook being used to avoid daily stressors and also Facebook causing stress. There was no significant difference found between age, gender and the amount of time spent on Facebook. It became apparent when researching the topic that there is limited research on Facebook use and stress. Additional analysis of stress, outside the hypothesis, has been included.

Loneliness

Baragh and McKenna (2004) outlined that it maybe that those who feel lonely, lack close ties in the real world and could benefit from the ready-made support network provided by Facebook. This research found no significant correlation between Facebook usage and loneliness. However, female respondents showed higher levels of loneliness than males and more connectedness to Facebook use. This could be interpreted in two ways. One, Kraut et al. (1998) researched the social and psychological impact of the internet on 169 people in 73 households during their first one to two years online, findings suggest greater use of the internet was associated with declines in participant's communication with family members in the household and declines in the size of their circle and increases in depression and loneliness. The finding in this study may support Kraut et.al. (1998) because female participants showed higher levels of Facebook use and higher levels of loneliness than males.

Their loneliness may be due to the time they are spending on Facebook, having virtual relationships and perhaps less real world communication. Two, Female respondents (mean age of 33 years) may be experiencing more loneliness by being stay at home mothers and use Facebook to stay connected to friends. Morahan- Martin et al. (2003) lonely individuals may be drawn online because of the increased potential for companionship as a way to modulate negative moods associated with loneliness. Support for this theory was found in their survey of 277 undergraduate internet users to assess the differences between lonely and non-lonely individuals in patterns of internet use. Lonely individuals used the internet and email more and were more likely to use the internet for emotional support.

Self-esteem

Research of self-esteem has produced mixed results. There was no significant correlation between Facebook usage and self-esteem as predicted in this research although there was a negative correlation. This is supported by Mehdizadeh's (2010) findings in a correlation analysis of self-esteem and narcissism, it was revealed that individuals higher in narcissism and lower in self-esteem were related to greater online activity, results indicated a significant negative correlation self-esteem and Facebook activity, Individuals who rated lower on the Rosenberg Self-Esteem Scale were correlated with more amount of time on Facebook and logged in more often. Research findings have been supported by Kramer and Winter (2008), they researched self-esteem, self- efficacy and extraversion with regard to impression management within social networking sites and found no relationship between self-esteem and self-presentation on social networks. This is in line with Marcus et al. (2006) even though a different scale for assessment of self-esteem was used. In a study of 96 Facebook users from the general population, with the majority aged between 18 and 30.Miliano (2012) found no significant correlation between patterns of Facebook usage and self-esteem. Similarly Duff's (2012) findings from 188 participants, of which 109 were

female, revealed a negative correlation between self-esteem and Facebook use but the findings were not significant. Although the alternative hypothesis was rejected the finding are supported and the Irish sample of adult Facebook users have produced similar results to previous research.

Social Anxiety

Hypothesis three aimed to find a significant negative correlation between Facebook use and social anxiety, the results were not significant, a reason for this may be the participants were all adults and may experience less social anxiety than younger respondents in previous studies. The results did not support Sheeks and Birchmeier (2007) research which showed that a preference for mediated communication is connected to shyness and is in line with findings that people with social anxieties have increased need for control that can be satisfied more easily in asynchronous communication. 207 undergraduate students in a US Midwestern University participated in a study to test the notion that Facebook use is associated with increased friendship quality for shy individuals. Baker and Oswald's (2010) results showed that Facebook was positively associated with satisfaction, importance and closeness with Facebook friends for relatively shy individuals. Wilson et al. (2010) found no evident link between social networking and neuroticism and self-esteem attributed to concerns held by socially anxious people about being in the public domain. The participants were young people aged 17 to 24 years old. Wilson's research supports results of this research, regardless of the age differences in participants in both studies. Within this research female respondents scored higher on social anxiety than male and also showed more Facebook use, these findings are in line with Kraut et al (2002), they found in virtual social interactions those with lower self-esteem and higher social anxiety in real life spend more time on the internet, perhaps seeking connections or distraction, but in fact were more likely to have fewer friends than those who thrive interpersonally in the real world.

Stress

Hypothesis Four was rejected and no significant difference was found between perceived stress and Facebook use. Kim et al. (2009) found Facebook users may be less likely to deal with real world problems using online engagement as a form of avoidant coping. Happiness derived from the number of Facebook Friends may be due to visualisation of which reminds the user of their social connections and enhances self-worth. The act of positive self-presentation on Facebook may closely reflect people's tendency to hold positive beliefs about themselves from which psychological benefits of self-enhancement are derived, these perceptions of self can help people cope with self-threatening or stressful situations, (Kim, 2011). This supports the results for Hypothesis six, a significant difference was found between perceived stress, Facebook use and the use of Facebook to avoid daily stressors. Results showed a strong statistical significant correlation between self-esteem and Facebook causing the user stress which is in contrast to Kim's (2011) research findings. Charles et al. (2011) conducted a study with a 175 participants of university students at Edinburgh Napier University, findings showed a significant number of Facebook users suffer from Facebook related anxiety and stress. The results for Irish adult participants supports Charles et al (2011) findings, a strong significant correlation was outlined for perceived stress and Facebook causing stress, suggesting participants who are already experiencing higher stress levels are experiencing stress in their Facebook use. According to Charles et al (2011) Facebook related anxiety and stress can involve pressure to keep up with updates and maintain the friendships, it can be generated from lack or response to status updates or messages sent to friends. Those who want to withdraw from the site feel they will miss social engagements and offend contacts. The research compared Facebook use to gambling where the user in a neurotic limbo, an unproductive period of waiting for something to happen that leads to anxiety and stress. The significant correlation between Facebook use and Facebook causing stress found

in hypothesis six supports research from Charles et al. (2011). The additional analysis in this study found a strong significant correlation between social anxiety and Facebook use causing stress, this supports aspects of Charles et al. (2011) in that socially anxious people do not have the social confidence, like extraverts and may find themselves on Facebook in the unproductive state which can lead to stress. Results also showed a significant correlation between social anxiety and use of Facebook to avoid daily stressors, In this case, socially anxious people may find it easier to interact with others online and use Facebook instead of real life social situations. A strong significant relationship was outlined between the amount of Facebook friends and the site causing the user stress. This could be explained by the user having to maintain the so many friendships and keep up with messages and status updates. This supports previous research by Charles et al.(2011) outlining that the more Facebook Friends people have the more they feel they need to entertain and maintain their Facebook audience. A strong significant relationship was found between loneliness and Facebook use to avoid stress and cause stress. Lonely people may need to use Facebook for social support, but it may cause them stress if they are relying on it to combat feeling of loneliness and are not receiving the social support they need.

Personality

The focus of Hypothesis seven and eight in this research was on extraversion (warmth, gregariousness, assertiveness, activity, excitement seeking and positive emotions) the most prevalent trait in Facebook use and personality research. There was no significant difference between extraversion and the amount of time spent on Facebook, however a significant difference was found between extraversion and the amount of Facebook friends. The link with extraversion and more Facebook friends is supported by Ozer and Benet-Martinez (2006) research which outlined a significant relationship between personality traits and social behaviour, noting that the body of literature in this area supports for the traits

extraversion and neuroticism as two if the more predictors of social relationship outcomes. The traits in the Big Five have been shown to explain the nature and extent of social behaviour on the internet, traits extraversion, openness and neuroticism have been shown to explain social behaviour on Facebook (Correa et al. 2010). Amichai- Hamburger and Vinitzky (2010) concluded that for Facebook use, higher extroversion was associated with increased social behaviour. This general trend has been shown for offline social behaviour as well. The findings for Irish adult extraverts are in line with Wilson et al (2010) research in which they tested the role of personality and self-esteem in young adults and their levels of social networking. Higher levels of Facebook use and addictive tendencies were found in extroverted people, extroverts need unlimited contact with the virtual world and friends for a high stimulation and large social network. Results of this research did not support Seidman's (2013) examining of the relationship between the Big Five and the use of Facebook to fulfil belonging and self-presentational needs. Extraversion was associated with more frequent use of Facebook to communicate with others, this was not the case for Irish extraverts using Facebook. Irish adult extraverts may not have the time to spend on Facebook but they do have more Facebook friends.

Strengths /Weakness

Procedural limitations were found within the questionnaire. Participant's expressed a confusion surrounding the responses to some of the questions. Questions 7-12 were answered strongly disagree to strongly agree but this format changed for questions 25-34 to the opposite of strongly agree to strongly disagree. Participants found themselves continuing with the first format and had to go back and redo some questions, within the participants there may be some who didn't notice this change and this may have effected results for those questions.

The questionnaire contained an error of five responses to the Rosenberg self-esteem scale (1965) instead of four options for response. This was noted after all questionnaires had been completed. This error was compensated by calculating score's as five options instead of four. This may have had a marked impact and hindered results for self-esteem within the research.

This study contains an imbalance of gender, 56 males and 152 females. Future research should take procedures to counteract this difference, perhaps specifically targeting respondents instead of using the snowball effect. This may have impacted results, females showed higher levels of loneliness, perceived stress and social anxiety. If this is not the case future research should investigate these areas further. Duff's (2012) research found females are heavier users of Facebook, this is consistent with results found within this research. Additional research may only focus on why females need to use Facebook more than males.

Irish Facebook users are generally between the ages of 18 to 44 years old, the strength of this research is that the respondent's average age was 33 years old which is within this range. Research also found that 41% of participants are using Facebook for one to two hours a day, future research could investigate why so many people are spending this amount of time daily on Facebook with a focus on their socio economic status, lifestyle and health. The most important outcome of this study was the results surrounding stress. Although there was not a significant relationship between perceived stress and Facebook use, there was a strong statistical correlation between Facebook use to avoid stress and use causing stress. Future research is needed in this area. Having investigated this topic there is limited research available. Results show people with perceived stress levels are using Facebook to avoid daily stressors. Using Facebook as distraction from life stressor and as a coping mechanism may be utilized and may have practical implications to help people manage stress. In saying that the contrary is also evident in the research with Facebook causing users stress. If this is the case future research could address how social networking is causing people stress and ways to

combat that stress may unfold. Additional analysis of the data found correlations between Facebook stress and loneliness, self-esteem, social anxiety and the amount of Facebook friends, these findings warrant further investigation in future research on this topic.

Conclusion

The findings of this current study are noteworthy in that half of the Irish population are using Facebook and 41% of the sample population are using it 1-2 hours a day. It is worth investigating the reason people are drawn to this way of socially interacting. The topic of stress have come to the forefront in this study and warrants future research. It's an important area of investigation due to the health implications of prolonged stress.

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Appendix

Facebook Intensity Scale (FBI)

The Facebook Intensity scale is used to measure Facebook usage beyond simple measures of frequency and duration, incorporating emotional connectedness to the site and its integration into individuals' daily activities. You are free to use the Facebook intensity scale (FBI) as long as correct attribution is used

Scale Items

1. Facebook is part of my everyday activity

2. I am proud to tell people I'm on Facebook

3. Facebook has become part of my daily routine

4. I feel out of touch when I haven't logged onto Facebook for a while

5. I feel I am part of the Facebook community

6. I would be sorry if Facebook shut down

7. Approximately how many TOTAL Facebook friends do you have? *

8. In the past week, on average, approximately how much time PER DAY have you spent actively using Facebook?

Response categories range from 1 = strongly disagree to 5 = strongly agree, unless otherwise noted.

Can be asked as an open-ended or closed-ended question. If asked as an open-ended question, Total Facebook friends must transformed by taking the log before averaging across items to create the scale due to differing item scale ranges. If asked as a closed-ended question, a ten point ordinal scale may be used (e.g. 10 or less, 11–50, 51–100, 101–150, 151–200, 201–250, 251–300, 301–400, more than 400). You may wish to adjust these response categories depending on your population.Note that earlier versions asked students to distinguish among in-network and total friends. This may or may not be appropriate based on population, site

layout.Can be asked as an open-ended or closed-ended question. If asked as an open-ended question, Facebook minutes should be measured by having participants fill in the amount of time they spend on Facebook. Then the item should then be transformed by taking the log before averaging across items to create the scale due to differing item scale ranges. If asked as a close-ended question an ordinal scale may be used (e.g. 1= 0-14min, 2=15-29 min, etc). Again, response categories may differ based on population means.

Computing the Scale

The Facebook Intensity score is computed by calculating the mean of all of the items in the scale

The Perceived Stress Scale

Instructions

The questions in this scale ask you about your feelings and thoughts during the last month.

In each case, you will be asked to indicate how often you felt or thought a certain way.

For each question circle one of the following options:

0 = never 1 = almost never   2 = sometimes 3 = fairly often 4 = very often

Reverse the scores for the positively worded items (4, 5, 7 & 8) eg 0=4, 1=3, 2=2,3=1,4=0.

Add the reversed scores together with the original scores for the remaining items (1, 2, 3, 6, 9 & 10).The higher the overall total score the greater the amount of perceived stress the person is experiencing.

1	1. In the last month, how often have you been upset because of 2. something that happened unexpectedly?	**0**	**1**	**2**	46 **3**	**4**
2	3. In the last month, how often have you felt that you were unable 4. to control the important things in your life?	**0**	**1**	**2**	**3**	**4**
3	5. In the last month, how often have you felt nervous and stressed?	**0**	**1**	**2**	**3**	**4**
4	6. In the last month, how often have you felt confident about your ability 7. to handle your personal problems?	**0**	**1**	**2**	**3**	**4**
5	8. In the last month, how often have you felt that things were going your way?	**0**	**1**	**2**	**3**	**4**
6	9. In the last month, how often have you found that you could not cope 10. with all the things you had to do?	**0**	**1**	**2**	**3**	**4**
7	11. In the last month, how often have you been able to control irritations in your life?	**0**	**1**	**2**	**3**	**4**
8	12. In the last month, how often have you felt that you were on top of things?	**0**	**1**	**2**	**3**	**4**
9	13. In the last month, how often have you been angered because of 14. things that happened that were outside of your control?	**0**	**1**	**2**	**3**	**4**
10	15. In the last month, how often have you felt difficulties were piling up 16. so high that you could not overcome them?	**0**	**1**	**2**	**3**	**4**

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Rosenberg Self Esteem Scale

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

Scoring

Items 1,3,4,7 & 10 are scored: SA=3, A=2, D=1, SD=0.

Items 2, 5, 6, 8 & 9 are reverse scored: SA=0, A=1, D=2, SD=3.

Sum the scores for the 10 items. The higher the overall total, the greater the self- esteem.

UCLA Loneliness Scale

Indicate how often each of the statements below is descriptive of you. Circle one letter for

each statement:

O indicates "I <u>often</u> feel this way"

S indicates "I <u>sometimes</u> feel this way"

R indicates "I <u>rarely</u> feel this way"

N indicates "I <u>never</u> feel this way"

	O S
How often do you feel unhappy doing so many things alone?	R N

	O S
How often do you feel you have nobody to talk to?	R N

	O S
How often do you feel you cannot tolerate being so alone?	R N

How often do you feel as if nobody really understands you?

O S

R N

How often do you find yourself waiting for people to call or write?

O S

R N

How often do you feel completely alone?

O S

R N

How often do you feel you are unable to reach out and communicate with those around you?

O S

R N

How often do you feel starved for company?

O S

R N

How often do you feel it is difficult for you to make friends?

O S

R N

How often do you feel shut out and excluded by others?

O S

R N

How your score was calculated:

  1 point for each question you answered Never N

  2 points for each question you answered Rarely R

  3 points for each question you answered Sometimes S

  4 points for each question you answered Often O

Compute your score by adding the ten numbers together.

Scores between 15 and 20 are considered a normal experience of loneliness. Scores above 30 indicate a person is experiencing severe loneliness

Social Activities and Distress Scale

NFER-NELSON
Health & Social Care
INFORMING YOUR DECISIONS

Name: .... Age: ....
Date: .... Sex: ....
Occupation: ....

Below are some statements which may be true or false for you. Read each statement and decide whether it is true as applied to you, or false as applied to you.
If it is true, or usually true, put a circle around 'T'. If it is false, or usually false, put a circle around 'F'.

1.	I feel relaxed even in unfamiliar social situations.	T	F
2.	I try to avoid situations which force me to be very sociable.	T	F
3.	It is easy for me to relax when I am with strangers.	T	F
4.	I have no particular desire to avoid people.	T	F
5.	I often find social occasions upsetting.	T	F
6.	I usually feel calm and comfortable at social occasions.	T	F
7.	I am usually at ease when talking to someone of the opposite sex.	T	F
8.	I try to avoid talking to people unless I know them well.	T	F
9.	If the chance comes to meet new people, I often take it.	T	F
10.	I often feel nervous or tense in casual get-togethers in which both sexes are present.	T	F
11.	I am usually nervous with people unless I know them well.	T	F
12.	I usually feel relaxed when I am with a group of people.	T	F
13.	I often want to get away from people.	T	F
14.	I usually feel uncomfortable when I am in a group of people I don't know.	T	F
15.	I usually feel relaxed when I meet someone for the first time.	T	F
16.	Being introduced to people makes me tense and nervous.	T	F
17.	Even though a room is full of strangers, I may enter it anyway.	T	F
18.	I would avoid walking up and joining a large group of people.	T	F
19.	When my superiors want to talk with me, I talk willingly.	T	F
20.	I often feel on edge when I am with a group of people.	T	F
21.	I tend to withdraw from people.	T	F
22.	I don't mind talking to people at parties or social gatherings.	T	F
23.	I am seldom at ease in a large group of people.	T	F
24.	I often think up excuses in order to avoid social engagements.	T	F
25.	I sometimes take the responsibility for introducing people to each other.	T	F
26.	I try to avoid formal social occasions.	T	F
27.	I usually go to whatever social engagements I have.	T	F
28.	I find it easy to relax with other people.	T	F

Count one point for each of your answers that match those below. The higher the score is on the scale, the greater the degree of one's social discomfort.

The norms reported by Watson and Friend (1969) can be used to interpret your score:

	Low	Intermediate	High
Men	= > 4	= 4-19	20+
Women	= 0	=1-16	17+

1. F

2. T

3. F

4. F

5. T

6. F

7. F

8. T

9. F

10. T

11. T

12. F

13. T

14. T

15. F

16. T

17. F

18. T

19. F

20. T

21. T

22. F

23. T

24. T

25. F

26. T

27. F

28. F

A Brief Version of the Big Five Personality Inventory.

Big Five Inventory-10 (BFI-10)

Adapted from Rammstedt, B. & John, O. P. (2007). Measuring personality in one minute or less:A 10 item short version of the Big Five Inventory in English and German. *Journal of Research in Personality, 41*, 203-212.

Instructions: How well do the following statements describe your personality?

I see myself as someone who … disagree strongly, disagree, neither agree nor disagree, agree, agree strongly.

1. … is reserved (1) (2) (3) (4) (5)

2. … is generally trusting (1) (2) (3) (4) (5)

3. … tends to be lazy (1) (2) (3) (4) (5)

4. … is relaxed, handles stress well (1) (2) (3) (4) (5)

5. … has few artistic interests (1) (2) (3) (4) (5)

6. … is outgoing, sociable (1) (2) (3) (4) (5)

7. … tends to find fault with others (1) (2) (3) (4) (5)

8. … does a thorough job (1) (2) (3) (4) (5)

9. … gets nervous easily (1) (2) (3) (4) (5)

10. … has an active imagination (1) (2) (3) (4) (5)

Scoring the BFI-10 scales (R = item is reverse-scored):

Extraversion: 1R, 5

Agreeableness: 2, 7R

Conscientiousness: 3R, 8

Neuroticism: 4R, 9

Openness to Experience: 5R, 10

Facebook use - Stress, Personality, Loneliness, Social Anxiety and Self Esteem.

Hi. My name is Donna Fleming, I'm a Dublin Business School student and I'm currently conducting research on Facebook use. I'm particularly interested in Irish Adults over 21 years old and why so many people are using Facebook. The research will look at loneliness, stress, personality, social anxiety and self -esteem in relation to Facebook use.

The information given is completely confidential and results are returned to Google and then given to me on a spread sheet so your identity is protected.

I appreciate your participation and thank you for taking the time to fill this out.

You can contact me at ███████████████████████ with any queries.

Please feel free to withdrawn from the questionnaire at any time and if you are affected by any of the topics please see the websites below

www.dublinsamaritans.ie

www.aware.ie

www.reachout.com

*Required

1. Gender

   Female

   Male

2. Age

3. Nationality *

   Irish or living in Ireland

4. Do you have a Facebook account *

   Yes

5. Has Facebook caused you stress

   Yes

   No

6. Do you use Facebook to escape from daily stressors

   Yes

   No

7. Facebook is part of my everyday activity

8. I am proud to tell people I'm on Facebook

9 .Facebook has become part of my daily routine

10. I feel out of touch if I haven't logged onto Facebook for a while

11. I feel I am part of the Facebook community

12. I would be sorry if Facebook shut down

13. How many Facebook friends do you have?

14. In the past week, on average, approximately how much time per day have you spend actively using Facebook

15. In the last month, How often have you been upset because of something that happened unexpectedly

16. In the last month, How often have you felt that you were unable to control the important things in your life

17. In the last month, How often have you felt nervous and stressed

18. In the last month, How often have you felt confident about your ability to handle your personal problems

19. In the last month, How often have you felt that things were going your way

20. In the last month, How often have you found that you could not cope with all the things you had to do

21. In the last month, How often have you been able to control irritations in your life

22. In the last month, How often have you felt you were on top of things

23. In the last month, How often have you been angered because of things that happened that were outside of your control

24. In the last month, How often have you felt difficulties were piling up so high that you could not overome them

25. On a whole I am satisfied with myself

26. At times, I think I am no good at all

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

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

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

30. I certainly feel useless at times

31. I feel I am a person of worth, at least on an equal plane with others

32. I wish I could have more respect for myself

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

34. I take a positive attitude toward myself

35. How often do you feel unhappy doing so many things alone

36. How often do you feel you have nobody to talk to

37. How often do you feel you cannot tolerate being so alone

38. How often do you feel as if nobody really understands you

39. How often do you find yourself waiting for people to call or write

 40. How often do you feel completely alone

41. How often do you feel you are unable to reach out and communicate with those around you.

42. How often do you feel starved for company

43. How often do you feel it is difficult for you to make friends

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45. I feel relaxed even in unfamiliar social suitations

46. I try to avoid suitations which force me to be very sociable

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50. I usually feel calm and comfortable at social occassions

51. I am usually at ease when talking to someone of the opposite sex

52. I try to avoid talking to people unless I know them well

53. If the chance comes to meet new people I often take it

54. I often feel nervous or tense in casual get togethers in which both sexes are present

55. I am usually nervous with people unless I know them well

56. I usually feel relaxed when I am with a group of people

57. I often want to get away from people

58. I usually feel uncomfortable when I am in a group of people I dont know

59. I usually feel relaxed when i meet someone for the first time

60. Being introduced to people makes me tense and nervous

61. Even though a room is full of strangers, I may enter it anyway

62. I would avoid walking up and joining a large group of people

63. When my superiors want to talk with me, I talk willingly

64. I often feel on edge when I am with a group of people

65. I tend to withdraw from people

66. I don't mind talking to people at parties or social gatherings

67. I am seldom at ease in a large group of people

68. I often think up excuses in order to avoid social engagements

69. I sometimes take responsibility for introducing people to each other

70. I try to avoid formal social suitations

71. I usually go to whatever social engagements I have

72. I find it easy to relax with other people

73. I see myself as someone who is reserved

74. I see myself as someone who is generally trusting

75. I see myself as someone who tends to be lazy

76. I see myself as someone who is relaxed and handles stress well

77. I see myself as someone who has few artistic interests

78. I see myself as someone who is outgoing and sociable

79. I see myself as someone who tends to find fault with others

80. I see myself as someone who does a thorough job

81. I see myself as someone who gets nervous easily

82. I see myself as someone who has an active imagination