

The Effects of Social Media on Depression Anxiety and Stress

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Abstract

The aim of this exploratory study was to gain a deeper understanding of the relationship between Age, Time spent using social media daily, Number of social media platforms used daily, Facebook Intensity Scale and Mental Wellbeing (Depression, Anxiety and Stress). A quantitative, correlational coefficient survey was implemented to gather the necessary data. A convenience sample of 73 participants completed the survey which consisted of the Facebook Intensity Scale and the Depression, Anxiety and Stress Scale. Analysis of the data displayed that there was a positive, significant correlation between number social media platforms across all three negative emotional states, Depression, Anxiety and Stress. There was no significant correlation between Age, Time spent on social across all platforms, the Facebook Intensity Scale and Mental Wellbeing (DASS). The practical implications of these findings may involve the introduction of an educational campaign in order to increase awareness of the potential negative effects of social media.

1 Introduction

Social media is everywhere, for many, it is one of the first and last activities of the day. It is where time is passed, statuses posted and friendships are made. It is a place to stay in touch with friends, communicate with distant family and even find love, but is social media all positive? A huge amount of research tells of a darker side to social media, one where constant social comparisons are made, a place where happiness is dependent on the amount of likes or shares one gets on a daily basis. O'Keefe and Clarke-Pearson (2011) define social media as; "any Web site that allows social interaction is considered to be a social media site." (O'Keefe and Clarke-Pearson, 2011, pp.800). Social media comes on a number of platforms some of the best known are; Facebook, Snapchat, Twitter and Instagram. One of the commonalities these platforms share is an approval system where friends may "Like," "retweet", "comment" or "share" your input into the network this may come in the form of a status, photo or video.

Social media is now a huge part of daily life for many people, particularly in western countries; "Multi-platform use is on the rise: 52% of online adults now use two or more social media sites, a significant increase from 2013, when it stood at 42% of internet users." (M. Duggan et al, 2015 pp.2). This may be due to the introduction of popular new social media apps such as Snapchat, Instagram and Twitter. The mass appeal of social networks on the Internet could be a cause for concern (Kuss & Griffiths, 2011). This mass attraction to social media is a multi-factor appeal, the low cost, high stimulation means it is readily accessible to anyone with a screen and internet connection. More than one billion people are active on Facebook today, a social network that grew from a college campus in 2004, this mass growth and interest in an online service has never been seen before. Due to this very fast influx and growth, psychology has found itself in uncharted waters in terms of social media and its effects either positive or negative. Today, psychologists do not know what a fifty year old

person who has been exposed to social media from birth looks like. The template for human behaviour and interaction has changed drastically in the past twenty years due to social media, train journeys, waiting areas, coffee shops even restaurants are in many cases no longer opportunities for human interaction but rather a chance to tweet, like or post something on a social media platform. It is due to this change of human behaviour that research into how this affects our mental wellbeing must continue to evolve and remain up to date with the latest trends in social media. Social media in the latest form has been described as “A group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user-generated content.” (Andreas Kaplan & Michael Haenlein, 2012, pp. 104). Facebook and similar social media sites by its very nature is designed to connect the individual with friends and family, as such it is a place where individuals want to feel valued and part of something larger. However, the way in which Facebook and other social media platforms impact on self-esteem is disputed among research, for example Mehdizadeh (2010) found a negative correlation between Facebook engagement and self-esteem, however it must be noted that this study was limited by having subjectivity in its coding and may have been better served by employing several ‘raters’ from varying age ethnicity and gender backgrounds. Conversely, in a similar study conducted by Wilson et al (2010) no significant relationship between social media and their participants’ self-esteem was found. This conflict of results has become a norm amongst scholars and popular literature since research began in the area of social media. Further research conducted by Valkenburg, Peter & Shouten (2006) suggests that social media platforms like Facebook may actually serve to boost self-esteem through positive recognition and feedback of posted content by friends online. Correa, Hinsley and De Zuniga (2010) conducted research into personality types and their relationships within social media usage, findings suggested that extraverted men and women were both likely to be more frequent users of social media tools, while only the men with

greater degrees of emotional instability were more regular users. A large part of social media is projecting a self-image that will receive a kind of social currency in the way of friends' recognition through likes, positive comments or shares. Understanding that projecting a positive outward image is crucial to some social media users and can develop into what is known as Public Self Consciousness (PSC), which is defined as; "A tendency to think about those self-aspects that are matters of public display, qualities of the self from which impressions are formed" (Scheier & Carver, 1985, p. 687). One study conducted by Lee, Moore, Park & Park (2012) which sought to provide insight into the phenomena of social compensatory friending on Facebook, and its relationship with self-esteem and PSC, the results demonstrated that there is a negative association between self-esteem and number of Facebook friends, also stating the moderating role PSC has in social compensatory friending. Social compensatory friending, Valkenburg & Schouten, (2005) works on the premise that those with low self-esteem in their offline self and who have low satisfaction with their offline relationships may seek to compensate for this by developing wider networks of online relationships, hence the term *social compensatory friending*. Interestingly, the number of Facebook friends was significant only for Facebook users who were high in public self-consciousness.

O'Keeffe & Clarke-Pearson (2011) conducted research into social media usage in teenagers. Due to their limited capacity for self-regulation and susceptibility to peer pressure, adolescents are at some risk as they navigate and experiment with social media. It is important to note that while the current study is only using participants of 18 and above it does recognise that users far younger than the age of 18 have access to and regularly use social media sites.

1.1 Social Media Usage

There has been arguments made that social media is in fact addictive, some say that because of its draw and seemingly pleasurable outcomes, that it can quickly develop into an addiction. Kuss (2011) notes that individual prone to egocentric behaviour may be at higher risk to becoming addicted to social media. This is due to social media acting as a vehicle to project themselves in a positive light to a wide audience of friends and followers which gives them an *emotional high*. Kuss (2011) argues that this may lead to the cultivation and facilitation of learning behaviours that drive the development of social media addiction. Social media addiction, like substance addictions manifests in a number of ways and in varying degrees of intensity. These include mood modification, salience, tolerance, conflict and relapse. Understanding these motivators are key to understanding why some people continually use social media even why it begins to negatively impact their lives. Sriwilai, K., & Charoensukmongkol (2016) state that people who are highly addicted to social media tended to have lower mindfulness levels and tended to use emotion-focused coping to deal with stress. While it is unrealistic to say that all users of social media are addicted, it is worth noting that these addictive variables are present and can impact on the duration and regularity in which we use social media. It is in the platform provider's interest to suck people in and get them to keep coming back, much like a casino, they stand to make money by just having users logged on to their site in the form of advertising. Social networking sites have grown and developed from desktop applications to the refined mobile apps on smartphones. Prompts in the form of messages, comment alerts and friend requests now arrive in real time making putting the phone away a huge challenge for many people today, in particular younger generations. Some of the social media platforms referred to in the current research includes the following; Facebook, Twitter, Snapchat, Instagram, LinkedIn, it is important to note that all of these platforms are

both image and text driven and involve sharing often daily activities to friends and the general public.

1.2 Evaluating Subjective Emotional States (Mental Wellbeing)

In order to understand the participants subjective emotional state, the Depression, Anxiety and Stress Scale was used. This is a 21 item measure which is non diagnostic in nature, however it is designed with the intention to measure to what degree symptoms of Depression, anxiety and stress affect an individual (Gomez, 2014)

1.3 Depression

Today, the prevalence of depression is at an all-time high affecting 350 million people worldwide (World Health Organisation, 2012). Depression affects approximately fifteen million Americans adults. Irish prevalence, according to the HSE is one in ten for males and one in four for women It has significant cost to mental health expenditure yearly, the total economic burden of MDD (Major Depressive Disorder) is estimated to be \$210.5 billion per year (Greenberg et al, 2015). According to Belmaker and Agam (2008) depression is related to normal feelings of sadness however these feelings do not remit even when the cause of the emotions dissipates and are often disproportionate to their original cause. Depression is a major contributing factor to suicide rates and is linked to the development of other mental disorders such as substance addiction and psychotic episodes.

Symptoms of depression include; loss of interest in pleasurable activities, anhedonia, restlessness and irritability, insomnia and fatigue. Depression often presents with other negative emotional states such as anxiety and stress. Chronic depression can heavily impact on an individual's ability to live their daily lives which creates a downward spiral of events leading to further negative emotional states. The rise of depression to its stratospheric heights today have run parallel to the rise of social media. It is difficult to ignore the similarities between the contributing factors to depression and the side effects of social media, things like – social isolation, low self-esteem difficulty sleeping. Kross et al (2013) conducted a cross sectional

study examining peoples Facebook usage and how prone they are to feelings of life dissatisfaction. They found that the more one used Facebook over a two week period the more their life satisfaction levels declined while this isn't strictly speaking depression – it does tell a story of negative emotional states which leaves a short step to depression. In a recent study interested in *Facebook depression*, Blease (2015) states that Facebook offers an overwhelmingly positive impression of one's Facebook friends which prompts social comparisons which in turn elevates the risk of negative self-appraisal. While this research seeks to uncover a clearer understanding of the potential negative impact of social media through all ages, it is important to note that the current research will be seeking input from adults only. Similarly, in a correlational study between the number of strangers followed on Instagram and depressive symptoms was found in a study conducted by Lup, Trub & Rosenthal, (2015). Instagram similarly to snapchat is a primarily image based social media platform which utilises the widespread availability of camera phones to update friends or followers. Findings in this study also included how positive social comparisons was associated with a decline in depressive symptoms.

1.4 Anxiety

Anxiety is something all people will experience at some stage in their lives and it is an important part of human's survival instinct. In the early stages of humanities existence anxiety allowed human beings to survive dangerous encounters by engaging the "fight or flight" response. In short intervals anxiety actually helps individuals to perform, whether it is in an interview or a sporting event. Anxiety is a term used to describe feelings of tension, nervousness and apprehension accompanied by physiological arousal. (Spielberg, 2013). When anxiety becomes chronic and unrelenting it can begin to negatively impact overall mental wellbeing, often spreading to other aspects of life other than the original source of the initial anxiety. This can have a knock on effect on the individual's day to day activities. Anxiety disorders take multiple forms including social phobias, generalised anxiety disorder, post-traumatic stress disorder and panic disorder.

While there are no fixed anxiety prevalence figures for Ireland at present "It is estimated that 1 in 9 individuals will suffer a primary anxiety disorder over their lifetime" (St. Patrick's mental health Service). Social media can affect anxiety particularly in young people through the social comparisons made on social networking sites, for example comparing ones weekend spent at home studying to a friend's spent on a beach in the Mediterranean. This phenomena commonly known as "Compare and Despair" is a source of self-consciousness that can quickly develop into social anxiety.

Another source of anxiety generated by social media is *FOMO*, a pop literature-coined term which stands for "Fear Of Missing Out" this is when an individual feels they have missed out on an event or exciting content when they have not logged in to a social media site for a period of time. It is this FOMO that makes users continually check and monitor the social media traffic on their own and their friend's pages. Graham D.L (2016) states in an article that

social media may cause young people anxiety by offering a platform that directly quantifies their friendships, offers social comparisons and providing real time information about social events that the individual is not part of, these factors come together to develop an unescapable world of constant social anxiety that can manifest for extended periods of time.

1.5 Stress

Stress is a reactive mechanism that has developed in humans as a survival tool to allow us to make quick decisions regarding immediate threats. However, experiencing long term stress can lead to chronic illnesses both physical and mental. In order to understand how social media might affect stress it is important to understand what stress entails. Stress, similarly to anxiety is something most people will experience at multiple stages throughout their lives, Baum (1990) defines stress as an emotional experience accompanied by predictable biochemical, physiological and behavioural changes. These physiological changes can be developed through the use of social media and there are a number of theories as to why social media use may cause stress. First is the constant highlight reel effect seen on friends Facebook pages, this is apparent when one might look at a friend's page or posts and only see the best moments in his or her life – creating a pressure to do more with their life or buy a nicer car. Another possibility for stress presenting in social media usage is pressure to portray the “ideal self” this pressure may be conscious or unconscious be either way it can pressurise people into getting on the latest trends with music, fashion, cars and even homes. These items can also cause large financial strain on the individual leading to further stress. In a two part study conducted by Duggan & Ellison (2014) interested with social comparisons made on Facebook and the correlation of this phenomena and depression found that both studies provided strong evidence to support the notion that social media negatively impacted its users emotional state having been logged in for extended periods of time because they felt badly about themselves when comparing to others` on their Facebook page. Another cause for concern around social media and stress is how engaging in social media at bed time can cause people to stay up later than they normally would. Due to a “blue light” emitted from laptop and smart phone screens, this results in less sleep. Minkel et al (2012) conducted a study to examine the effects sleep deprivation has on stress levels and found that those whom had less sleep experienced higher

levels of stress in a test that those with a healthy amount of sleep. This may be another contributing factor in the way social media effects stress levels.

1.6 Effects of Facebook Usage (Facebook Intensity Scale)

Facebook was one of the founding social networking sites has many popular features and is held in high regard among many social media users, features such as member profiles that contain personal information, displays friends list. Photo sharing which provides quick and easy updates on whoever's page one chooses. This coincided with tagging features and the ability to comment on others friends` content makes for enjoyable experiences, Facebook one of the most popular social networking site (SNS), with 96% of students reporting use of the site (Smith & Caruso, 2010). Concerns for Facebooks impact on mental health of young people in particular has been raised by researchers, one concern is the sites ability to promote the "ideal self-image" this can include anything from altering photos to unrealistic self-promoting which can have a lasting impact on interpersonal relationships with others. A study conducted by Steers, Wickham, & Acitelli (2014) supported the notion that the long one spends using Facebook the greater the likelihood that they will engage in spontaneous upward social comparison and as a result experience negative emotional states regularly and thus increasing their risk to depression. Within this research they state a number of contributing factors to this experience which include; high status individuals only sharing the best parts of their lives (self-enhancing which creates the highlight reel effect mentioned earlier, they even found a negative effect on wellbeing between downward social comparisons and the individual, stating it may be indicative of defensiveness. In contrast a study published by Tandoc, Ferrucci & Duffy (2015) found that Facebook use on its own does not directly lead to depression, in fact they produced findings stating that Facebook may actually have the opposite effect, lessening the likelihood of depression by using Facebook as a way of alleviating boredom and even loneliness. While this study offers an interesting alternative view to Facebook and social media in general the study was not without limitations one of which was the non-generalizable nature of their population sample which was drawn from one class of college students studying

introductory journalism. Facebook as a social media platform and the Facebook Intensity Scale will be used as a representative service for other forms of social media the participants may be involved in, the current research will generalise the Facebook Intensity Scale results across other social media platforms in order to understand the individuals relationships to social media services.

1.7 Rationale

While some research has examined the effects of social media on mental health in the past, still little is known in regard to how using social media on a regular basis affects mental health. Social media has only come into fruition on a mass scale in the past ten years and continuous research is needed to monitor the affect it has on its users. The current research aims to develop our understanding of the relationships with social media sites and the potential negative emotional affect it has on its users. It seeks to improve understanding by researching new comparisons that have not yet been compared, looking for correlations between variables like age, total social media use, likelihood of developing depressive, anxious and stressful symptoms along with how many social media platforms they use daily. By comparing these variables the current research can make new approximations on how to combat the potential negative affects social media has on the population today. Not all research has stated that the social media experience is a bad one, in fact (2007) found that Facebook usage was found to interact with measures of psychological well-being, possibly providing greater benefits for users experiencing low self-esteem and low life satisfaction. (B. Ellison, Charles Steinfield & Cliff Lampe 2007).

1.8 Hypothesis

The current research hypothesises the following;

Hypothesis model 1

That Age, Hours spent on S/M per week, Number of S/M outlets used and Facebook Intensity Scale score will significantly predict depression score.

Hypothesis model 2

That Age, Hours spent on S/M per week, Number of S/M outlets used and Facebook Intensity Scale score will significantly predict Anxiety Score

Hypothesis model 3

Finally that Age, Hours spent on S/M per week, Number of S/M outlets used and Facebook Intensity Scale score will significantly predict Stress Score.

2 Methodology

2.1 Participants

The target population for the current study was both males and females of wide age range that use social media to varying degrees. In order to access the sample, a convenience sampling method was used in conjunction with the snowballing effect through online questionnaires posted on social media and sent out via email. The participants were then prompted to volunteer to participate by checking the consent box and begin the questionnaire. The questionnaire sought to develop an understanding of the relationship between mental health and social media usage. No incentives or rewards were given to participants on completion of the study. The study was given approval by the Dublin Business School Psychology Research Ethics Committee and all ethical principles in the Code of Professional Ethics were adhered to throughout the implementation of survey and collation of data.

2.2 Inclusion Criteria

Male and females over the age of 18, who use social media to some degree.

2.3 Exclusion Criteria

Males and females below the age of 18 who do not use social media.

The collected sample consisted of seventy three participants that met the inclusion criteria, the majority of the respondents were between the ages of 18-30 (52.1%). With the other participants making up the 30-50+ (47.9%) age range. Interestingly 61.6% participants stated that they use three or more social media platforms on a daily basis. 65.7% of participants stating they use various social media for an hour or more per day. With 26% stating they spend two or more hours daily, across all social media platforms.

2.4 Design and procedure

This study employed a questionnaire based study using quantitative, between sample design that sought to investigate the relationship between time spent on social media daily, amount of social media platforms used daily, Facebook intensity scale and age as independent variables. While employing the DASS 21, using Depression, Anxiety and Stress scales as dependant variables.

In order to gain access to the sample, an online questionnaire was developed with a link that was then posted onto Facebook and also emailed out to various acquaintances which in turn was distributed further allowing the snowballing method to take effect. All private group pages on Facebook where the online survey was posted had permission prior to posting. All eligible and willing participants were presented with a short message prior to the briefing page explaining briefly what the nature of the study is and what it is seeking to investigate. Within the briefing page participants were informed of their right to withdraw and also given some information regarding support services in case any content of the questionnaire raised difficult feelings. Participants were also given the researchers email address should they have any questions before or after completion of the survey. All participants were administered the questionnaire (See in appendix) which took an average of ten minutes to complete.

2.5 Materials

The questionnaire used in this study consists of four sections, each section serving a different purpose, some to gather demographic information, others to inform participants of their rights and what the study concerns and another section to administer the Facebook Intensity Scale and DASS21.

2.5.1 Survey Section 1

Before commencement of the survey a short briefing sheet is provided (see Appendix A), containing information regarding the nature of the questionnaire is displayed along with contact information of the researcher so that they may make contact if they have any questions. As well as this, various personal support services numbers which are in place to allow the participant to seek help should the content of the questionnaire raise any difficult feelings. At the bottom of this page there is a “continue to survey” button which will bring them into section 2.

2.5.2 Survey Section 2

The first section of questions seek to ascertain key demographic information as well as information regarding each participants` consent, age eligibility and age range. Participants were provided the following options for age range (18–25yrs, 26–30yrs, 31–35yrs, 36-40yrs, 41-50yrs, and 50+ yrs). (See Appendix A). Following this the DASS 21 (Lovibond & Lovibond, 1995) item questionnaire is administered, this is the condensed version which uses seven items for each variable. The participants answer twenty one questions relating to their overall mental wellbeing. The DASS 21, Lovibond & Lovibond (1995) consisted of three main criteria; Depression, Anxiety and Stress. Participants were prompted to read the following instructions before ‘Read each statement and circle a number 0, 1, 2 or 3 which indicates how

much the statement applies to you recently. There are no right or wrong answers. Do not spend too much time on any statement'. The various scales include statements like; "I was unable to become enthusiastic about anything." Participants were then asked to give an opinion on how they felt about each statement on a Likert scale of zero 'Did not apply to me at all', and five 'almost always'. The depression scale is in place to estimate how prone individual is to hopelessness, self-depreciation, anhedonia, and lack of interest in life. The Anxiety scale provides insight into an individual's situational anxiety, their subjective experience of anxious affect and their proneness to autonomic arousal. Finally the stress scale is in place to detect how prone an individual is to becoming nervous, over reactive, having difficulties relaxing and being irritable or easily upset (See Appendix B for further details on section 2). The DASS scoring system is slightly unconventional in that it is a shorted version of the larger DASS 21 questionnaire, therefore the scores must be multiplied by 2. The DASS questionnaire does not produce a singular total score but rather multiple scores across the three scales. Comparisons can be made when the data from the questionnaire is transferred onto a profile sheet where severity rankings are given dependant on the individual's responses. This questionnaire possesses adequate construct validity, with reliability of the scales being .88 for Depression, .82 for Anxiety, .90 for Stress, and .93 for the Total scale (Henry & Crawford, 2005)

2.5.3 Survey Section 3

Having completed section one the participant will be presented with a continue button which will prompt them into the second part of the questionnaire which involves the Facebook Intensity Scale. This gathers information about the overall feelings each participant has towards Facebook, and how much time they spend using the site. The Facebook Intensity scale (Ellison et al., 2007) was employed in the current research in order to measure the participants' Facebook usage, emotional connectedness to the site and its integration into their daily activities. The measure consists of eight items (See Appendix C). The first six items were rated on a 5-point Likert scale, one item was rated on a 5-point ordinal scale and one item was rated on a 10-point ordinal scale. Responses to the 5-point Likert scale questions ranged from "strongly disagree" to "strongly agree". These items included statements like "I am proud to tell people I am on Facebook". The 5-point ordinal scale was used to measure how much time individuals spend actively engaging with Facebook daily. Responses to these questions were comprised of "0-29 minutes", "30-59 minutes", "60-89 minutes", "90-119 minutes" and "120 minutes or more". The 10-point ordinal scale was used to measure the number of Facebook friends each participant has. Responses for this question ranged from "10 or less" to "more than 400". After the 10-point ordinal scale has been transformed into a 5-point scale, the total score was computed by averaging the responses of all 8 items. The total scores could range from 1 to 5, with higher scores reflecting a greater intensity of Facebook use. The scale has been found to have high internal consistency with the result of .852 for Cronbach's alpha.

2.5.4 Survey Section 4

On the final page of the survey participants were presented with a short message from the researcher, thanking them for their participation and reiterating the personal support services provided at the beginning of the study. (See Appendix D)

3 Results

3.1 Introduction to results section

A quantitative quasi experimental correlational design was used for the current study. Hours spent on social media daily, number of social media outlets used and results from the Facebook intensity scale were used as predictor variables and the criterion variable is the DASS 21 subscale. This would be employed using three hypothesis models, time spent on social media daily, amount of social media platforms used daily, Facebook intensity scale total and age compared to Depression, Anxiety and Stress scores respectively. Data from the respondents were entered into the Statistical Package for Social Sciences (SPSS) computer program version 21.0, and an alpha of .05 was set for determining statistical significance. In addition to a variety of summary statistical tests, the researcher used a multiple regression to predict the impact of the predictor variables on the criterion variable and a partial correlation to explore relationships within the data. The present investigation obtained a sample size of seventy three participants all of which were recruited via social media and email. The majority of respondents were between the ages of 18-25 accounting for 37.8% of completed surveys. With the 50+ category making up 6.8% of the total intake of surveys.

Variable	M	SD	N	a
Depression-DASS	12.11	8.43	73	.93
Anxiety – DASS	11.15	8.01	73	.93
Stress – DASS	15.75	7.89	73	.93
Facebook Intensity Scale	17.40	4.31	73	.77

Table 1: Descriptive Statistics

Summary of descriptive statistics can be seen below in Table X showing the mean and Standard deviations of the Depression – DASS, Anxiety – DASS, Stress – DASS and the Facebook Intensity for all participants, in addition to the Cronbach’s Alpha.

3.2 Descriptive Statistics

All statistics were computed on SPSS 22 for Windows. The total number of respondents was (N=73) of which the majority of respondents were between the ages of 18-25 accounting for 37.8% of completed surveys. With regards to the daily social media usage categories, 25.7% stated that they spend 120 minutes or more per day on social media across all platforms. With 35.2% of the combined responses reporting that they spend less than an hour per day across all platforms. 16.2% of respondents reported that they use 5 or more social media platforms per day with the majority of participants reporting they use 3 platforms daily, 25.7%. This is displayed in figure 1 below in a comparison with age ranges. Participants were asked to comment on, as part of the Facebook Intensity Scale, the following statement “Facebook is part of my every day activity” to which 32.4% of participants strongly agreed and 40.5% agreed to, with only 5.4% responding to strongly disagreeing. Participants were asked how many total Facebook friends they have, 36.5% of participants stated they have 400 or more friends. With 12.2% of participants stating they have 100 or less friends on Facebook. Interestingly the mean score of Stress was highest out of all the DASS scores (M=15.75) that the other subscales in the DASS 21 item Depression (M=12.11), Anxiety (M= 11.15)

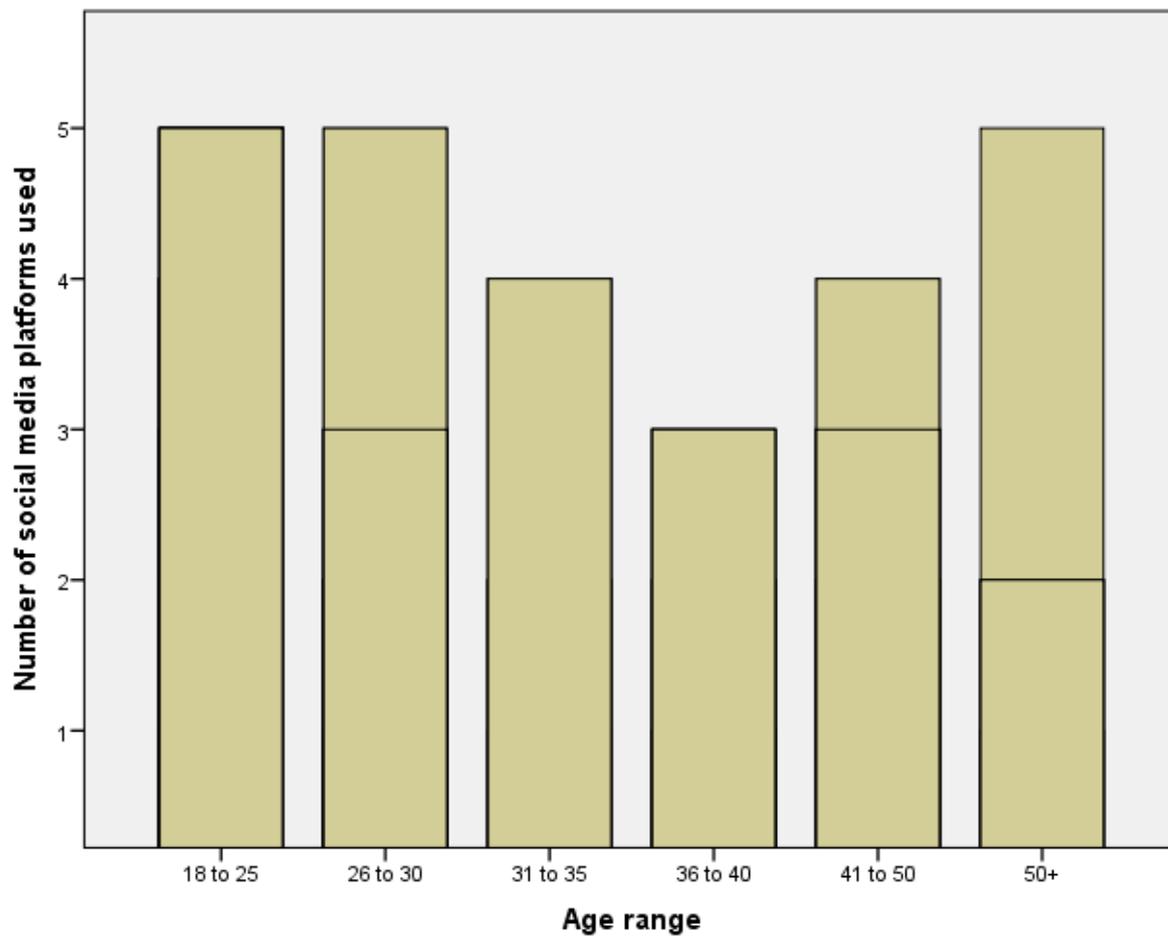


Figure 1: Age range comparison with number of social media outlets used.

3.3 Hypothesis

In order to test all three hypothesis models a multiple regression was the best suited, Field (2009) states that a multiple regression analysis allows us to predict future outcomes based on values of predictive variables. The current research used this as a means of gathering data without threats to reliability that can often occur with other data collection forms (Suskie, 1996).

3.3.1 Hypothesis Model 1 - Depression

A multiple regression was used to test whether age, number of social media outlets used daily, Time spent using social media daily (across all platforms) and the Facebook intensity scale scores were predictors of depression scores. The results of the regression indicated that 4 predictors explained 23.4% of the variance ($R^2 = .23$ $F(4,68)=6.51$, $P=.000$). It was found that amount of social media platforms used daily significantly predicted depression scores (Beta = .27, $P = .035$, 95% CI = .12, 3.34). Therefore the null can be rejected for this hypothesis.

Variable	Beta	Sig.	95% CI Lower	95% CI Upper
Mean FIS Score	.102	.370	-.241	.639
Time Spent Social Media Daily	.187	.176	-.494	2.644
Number of social media outlets used daily	.268	.035	.122	3.336
Age range	-.144	.271	-1.884	.537

Table 2 Regression Coefficient Table for Depression

3.3.2 Hypothesis Model 2 – Anxiety

A multiple regression was used to test whether age, number of social media outlets used daily, Time spent using social media daily (across all platforms) and the Facebook intensity scale scores were predictors of anxiety scores. The results of the regression indicated that two predictors explained 20% of the variance ($R^2 = .20$ $F(4,68)=5.47$, $P=.001$). It was found that amount of social media platforms used significantly predicted anxiety scores (Beta = .31, $P = .017$, 95% CI = .35, 3.47). Therefore the null can be rejected for this hypothesis.

Variable	Beta	Sig.	95% CI Lower	95% CI Upper
Mean FIS Score	.162	.164	-.126	.729
Time Spent Social Media Daily	.105	.455	-.950	2.099
Number of social media outlets used daily	.311	.017	-.346	3.469
Age range	-.099	.459	-1.616	.737

Table 3 Regression Coefficient for Anxiety

3.3.4 Hypothesis Model 3 - Stress

A multiple regression was used to test whether age, number of social media outlets used daily, Time spent using social media daily (across all platforms) and the Facebook intensity scale scores were predictors of stress scores across the sample collected (N=73). The results of the regression indicated that 4 predictors explained 16.1% of the variance ($R^2 = .16$, $F(4,68)=4.46$, $P=.003$). It was found that amount of social media platforms used daily significantly predicted stress scores (Beta = .35, $P = .009$, 95% CI = .56, 3.7). Therefore the null can be rejected for this hypothesis.

Variable	Beta	Sig.	95% CI Lower	95% CI Upper
Mean FIS Score	.045	.707	-.349	.513
Time Spent Social Media Daily	.151	.295	-.723	2.35
Number of social media outlets used daily	.353	.009	.555	3.70
Age range	-.001	.996	-1.189	1.182

Table 4 Regression coefficient table for Stress

4 Discussion

The aim of the current research is to develop the current understanding of social media and its potential negative effects on the human emotional state, depression anxiety and stress, thus expanding on today's current literature. This study has been conducted using three models of testing, comparing the variables of age, Facebook Intensity Scale scores, how many social media outlets an individual uses on a daily basis and how much time total they spend using various social media platforms against each subscale of the DASS21 respectively. There are a total of three hypothesis that will be examined and discussed below in relation to their results. This chapter will discuss these findings the limitations of the research and finally the future directions/implications for this research.

Throughout the three hypothesis models used in this study one common variable was found to be a significant correlation of symptoms of; Depression, Anxiety and Stress. Number of social media outlets used was significant across all three subscales with the strongest correlation being between number of social media outlets used and anxiety scores on the DASS21 subscale.

4.1 Hypothesis Model 1 Depression

This hypothesis sought to find a correlation between, Age, Hours spent on S/M per week, Number of S/M outlets used and Facebook Intensity Scale score will significantly predict Depression Scores. The current study found that the number of social media outlets one used daily has a significant, positive correlation with depression scores on the DASS21 subscale. There are a number of reasons as to why this finding may have occurred. High number of social media outlets correlating with high depression scores was expected prior to the current research being carried out. This hypothesis was developed due to past research being conflicting as regards to social media potentially causing negative emotional states. This significance might be explained with research conducted by Blease (2015) which states that Facebook offers an overwhelmingly positive impression of one's Facebook friends which prompts comparisons which in turn elevates the risk of negative self- appraisal, which over prolonged periods of time increases the individual's likelihood of developing depression. While this research focuses on Facebook only, it is clear from research displayed that these side effects of Facebook are scalable to all social media referenced in this research. This research is in accordance with previous research by Blease (2015) which found prolonged exposure to Facebook increased the likelihood of depression.

4.2 Hypothesis Model 2 Anxiety

This hypothesis sought to find a correlation between, That Age, Hours spent on S/M per week, Number of S/M outlets used and Facebook Intensity Scale score will significantly predict Stress Score. The current study produced a significant finding which included the number of social media outlets used had a significant, positive correlation with anxiety scores on the DASS21 subscale. Previous literature Graham D.L (2016) implicated social media in increased anxiety levels due to users' tendencies to quantify relationships, gain real-time access of social events that the individual is not part of which can potentially result in prolonged social anxiety. This significant finding falls in accordance with prior literature in that it supports the basis that using more social media platforms correlates with anxiety scores. These results may be due to excessive use of multiple platforms may contribute to greater levels of FOMO (Fear Of Missing Out), which may be a contributor to higher levels of social anxiety. The current research back up evidence found in other studies for example; Elhai, Levine, Dvorak & Hall, (2016) conducted research seeking to understand problematic smartphone use and its association with depression and anxiety, they found that variables like FOMO account for high levels of anxiety in problematic smart phone use.

4.3 Hypothesis Model 3 Stress

Some previous research displayed evidence that less REM sleep resulted in a greater susceptibility to stress. This previous research was imperative to a stress variable being included in this study as social media screens tend to be the first and last thing users look at before and after sleep. This hypothesis sought to find a correlation between, That Age, Hours spent on S/M per week, Number of S/M outlets used and Facebook Intensity Scale score will significantly predict Stress Score. The current study produced a significant finding which included how; the number of social media outlets used daily has a significant, positive correlation with stress scores on the DASS21 subscale, and this interesting finding may have a number of contributing factors to the dependant variable. These findings may be due to participants experiencing a lack of proper sleep due to social media at bed time particularly if they have a high number of social media platforms to engage with before they go to sleep. This act could be resulting in increased stress levels which is in line with Minkel et al`s (2012) research into stress and sleep deprivation. An alternative explanation for these findings may be having a higher number of social media apps on ones smartphone is likely to increase the number of “push notifications” generated by the apps which may in turn lead to a feeling of pressure to continually respond to these notifications.

4.4 Strengths and Limitations

There are a number of strengths within this study which include an under-researched Irish population which this study may serve as a benchmark for future research. The sample size, while small offered a varied age range and social media usage range which strengthened the studies validity. There are a number of limitations in regards to this present study. Firstly, the sample size of the current research (N=73) is not a representative of the wider social media using population. Future research may incorporate a larger representative sample in order to attain a more generalizable sample. Scarcity of time and resources limited this study to the researcher's wider network of friends and colleagues, while efforts were made to reach wider audiences limited time restricted this, meaning the sample taken is not ideal. However, future research may expand this investigation to a wider and more diverse audience. The present study involved structured questionnaires which in itself contains limitations. Participants were limited to choose an answer on a Likert scale which may not accurately reflect their thoughts, thus refining their answers overall. Future research might investigate these areas with establishing a better layout, allowing for a greater disparity of participants responses. Other limitations include the DASS21 scale, particularly with the Depression and Anxiety subsets, these two variables are heavily interlinked and overlap to varying degrees which may present issues when trying to use both variables against the same independent variables. The current research did not account for gender disparity which may have been skewed to a particular gender. Future research might include a gender indication to ensure a balanced gender variation. Finally the last notable limitation of the current research is the fact that there may be other factors that may have influenced participants' mental health that could not have been controlled for within the study.

4.5 Practical Implications of Findings

This research found that individuals that use a higher number of social media platforms on a daily basis are more likely to score higher for Depression Anxiety and Stress scores in the DASS 21. Some practical implications of this research might include the introduction of some tools of awareness in order to offset any potential risk of social media creating negative emotional states. As seen in previous research conducted by Lenhart, Purcell, Smith & Zickuhr (2010) over than 70% of adolescents use SNSs, most common of which is Facebook the younger population tend to have higher engagement rates with social media and, according to the current and past research are at higher risk of negative emotional effect due to high usage. It is this high risk population that would be targeted with various awareness campaigns as well as potential policy implementation on a national level in order for this information to be incorporated into the education system in Ireland and Europe. Other campaigns might include the promotion of digital Sabbath which is a recent trend that involves people switching off all screens for one day a week in order to relax and spend their time doing other activities.

4.6 Future Research Directions

Future research in this area should acquire a larger sample size as the total participants of seventy three may restrict the ability generalise the findings of the study, also with a smaller sample size some aspects of the demographics may become redundant. An increase in the sample diversity may also be considered when conducting new research as it is imperative to gather a wide sample in order to generalise these findings to the population. As well as this, future research may seek a better understanding of possible correlations between such variables as depression as used in this study and other negative emotional states that are less similar to depression for example envy. Depending on the research, a wide range of variables could be added to this study, for example testing narcissism or neuroticism along with life or job satisfaction against the use of social networking sites. Further Research could also look at dependency on social media for social approval in young adults, in an attempt to further develop our understanding of social media and its draw to users. Another interesting direction for future research might look at where the line can be drawn between intense social media use and social media addiction and what variables contribute to the latter.

4.7 Conclusion

This study set out to examine the effects of social media use on mental wellbeing in particular, its effects on depression anxiety and stress. This research is relevant due to the disputed previous research on social media which has produced conflicting evidence in how high use affects users. In some cases for instance research stated that social media can actually increase self-esteem while others say it is detrimental to mental wellbeing due to various factors including envy, self-consciousness and upward social comparisons. This paper found significant evidence within a multiple regression to suggest that using a high number of social media platforms, for example Snapchat, Facebook, Instagram, LinkedIn and Twitter can affect all three negative emotional states examined, depression anxiety and stress. While total time spent on social media across all platforms, age and Facebook Intensity Scale did not show a significant effect on the negative emotional states examined. This paper has served as a benchmark finding which can later be compared with other research in relation to an Irish context.

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6 Appendices

Appendix A

Welcome page (Online Survey)

My name is Sean Hughes, a fourth year Psychology student and I am conducting research as part of my final year thesis. I want to find out the impact that social media has on Depression Anxiety and Stress. Filling out this survey below will allow me to develop an understanding of the relationship between these variables and social media.

Your participation in this survey is voluntary and you are free to not participate. This research is completely anonymous. However, it is my intention to ensure this experience is a positive one. If you have any queries about the study beyond that provided here please do not hesitate to contact me at *****@mydbs.ie. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research.

If any of the questions do raise difficult feelings for you, contact information for support services are included below. These are some help lines you contact if you are experiencing any emotional, physical problems.

The Samaritans 42 (116123) and email: jo@samariatans.org

Teen line Ireland (1800 833 634)

Mental Health [01 284 1166](tel:012841166)

Participation is completely voluntary and so you are not obliged to take part. Participation is anonymous and confidential. As such - responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The data taken from these online questionnaires will not be used for anything other than this thesis and a short oral presentation. It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Tick the box below if you consent to participating in this study.

Please tick the box below if you are over the age of 18.

What is your age range?

18 – 25

26 – 30

31 – 35

36 – 40

41 – 50

50+

Appendix B
DASS-21

Please read each of the statements below and select a number (0, 1, 2 or 3) which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

- 1) I found it hard to wind down 0 1 2 3
- 2) I was aware of dryness of my mouth 0 1 2 3
- 3) I couldn't seem to experience any positive feeling at all 0 1 2 3
- 4) I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion) 0 1 2 3
- 5) I found it difficult to work up the initiative to do things 0 1 2 3
- 6) I tended to over-react to situations 0 1 2 3
- 7) I experienced trembling (eg, in the hands) 0 1 2 3
- 8) I felt that I was using a lot of nervous energy 0 1 2 3
- 9) I was worried about situations in which I might panic and make a fool of myself 0 1 2 3
- 10) I felt that I had nothing to look forward to 0 1 2 3
- 11) I found myself getting agitated 0 1 2 3
- 12) I found it difficult to relax 0 1 2 3
- 13) I felt down-hearted and blue 0 1 2 3
- 14) I was intolerant of anything that kept me from getting on with what I was doing 0 1 2 3
- 15) I felt I was close to panic 0 1 2 3
- 16) I was unable to become enthusiastic about anything 0 1 2 3
- 17) I felt I wasn't worth much as a person 0 1 2 3
- 18) I felt that I was rather touchy 0 1 2 3
- 19) I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat) 0 1 2 3
- 20) I felt scared without any good reason 0 1 2 3
- 21) I felt that life was meaningless 0 1 2 3

Appendix C

Facebook Intensity Scale

Below is a collection of statements about your feelings toward Facebook. Using the scale provided please indicate how true each statement is of you.

1 – Strongly disagree

2 – Moderately disagree

3 – Neither agree nor disagree

4 – Moderately agree

5 – Strongly agree

Facebook is part of my everyday activity.

1 2 3 4 5

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

1 2 3 4 5

Facebook has become part of my daily routine.

1 2 3 4 5

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

1 2 3 4 5

I feel I am part of the Facebook community.

1 2 3 4 5

I would be sorry if Facebook shut down.

1 2 3 4 5

Approximately how many TOTAL Facebook friends do you have?

1 10 or less,

2 11–50

3 51–100

4 101–150

5 151–200

6 201–250

- 7 251–300
- 8 301–350
- 9 351-400
- 10 more than 400

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

- 1 0-29min
- 2 30-59 min
- 3 60-89 min
- 4 90-119 min
- 5 120 min or more

Appendix D

Thank you for your participation in this study, as stated before. If any of the questions within this study did raise difficult feelings for you, please contact the support services included below. These are some help lines you can contact if you are experiencing any emotional, physical problems.

The Samaritans (042)116123 and email: jo@samaritans.org

Teen line Ireland (1800 833 634)

Mental Health (01) 284 1166

Thank you,

Sean Hughes