

Is there a Correlation between Facebook Activity and the Constructs Narcissism and Self-esteem?

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Abstract

The aim of this study is to examine the relationship between Facebook Activity and the constructs Self-esteem and Narcissism in two different age groups, 18-23yrs and 24yrs and above. A total of 82 full-time and part-time students (F=47 M=35) participated by way of convenience sampling and snowball sampling. Each participant completed a questionnaire pack containing the Rosenberg Self-esteem Scale, the Narcissistic Personality Inventory-16 and the Facebook Intensity Scale. A quantitative design using correlation found no significant relationships between Facebook Activity and Self-esteem or Facebook Activity and Narcissism in either group. However, the results reported that there was a significant difference in Facebook Activity between the groups and a t-test also highlighted a significant difference in Self-esteem between the groups. Implications of the findings and suggestions for further research are discussed.

Introduction

This research will look at the individual's need to be part of the online community of Facebook. Previous research has identified many reasons why people use this Social Media Site, from keeping in touch with friends to finding romantic relationships (Lenhart, Maden, 2007) or just wanting to belong to a community and share information and self-identity (Ridings & Gefen, 2004). This current research will look at the time spent maintaining this connection and see if it impacts the constructs Self-esteem and Narcissism. Self-esteem refers to an "individual's subjective evaluation of his or her worth as a person" (Donnellan, Trzesniewski, & Robins, p 718). It can also reflect the individual's objective ability or social status. Rosenberg, 1965 defined self-esteem as the "feeling that one is good enough", this does not imply that the individual feels better than others, more that they are happy with themselves. Self-esteem is a feeling of self-acceptance and self-respect and the construct is conceptually and empirically distinct from narcissism (Ackerman et al., 2011). The DSM criteria for narcissistic personality disorder are interpersonal e.g. "is interpersonally exploitative...takes advantage of others to achieve his or her own ends," (American Psychiatric Association, 2013, p. 670). Narcissists display a sense of entitlement and they regularly exploit others and are unwilling to return favours. They seek out attention and positive evaluations from others but this need is required to maintain a brittle and exaggerated sense of self-esteem (American Psychiatric Association, 2013). A study carried out by Byrne and O'Brien, (2014) examined interpersonal relationships between individuals who displayed narcissism against individuals who displayed authentic high self-esteem and found evidence that peers interacting with narcissists encountered substantial interpersonal problems compared to those interacting with individuals with authentic high self-esteem. This study will examine the correlation of these two constructs with Facebook Activity.

Background

Facebook was founded by Mark Zuckerberg in 2004, as a social networking tool. It was initially used by the Harvard University students but it grew in popularity with other schools and in 2006 it was opened to the public. Today Facebook is the biggest social network worldwide and as of January, 2015 Facebook had more than 1.39 billion global monthly active users, which is a 13% annual increase and they have 1.9 billion mobile active users which is an increase of 26% on the previous year. (Facebook, 2015).

Facebook operates as a personal website within a defined community of users. Between 85% and 99% of College students use Facebook as a form of communication (Hargittai, 2008a; Jones & Fox, 2009; Matney & Borland, 2009). It allows the users to locate and interact with each other and keep connected with the activities of their peers. The users can provide information about themselves, post pictures and record activities for others to see (Yang & Brown, 2013). Personal profiles can be strategically constructed and online personas can emphasise a person's most desirable traits (Gonzales & Hancock, 2011). Facebook profiles help satisfy individuals' need for self-worth and self-integrity and some users turn to their Facebook profiles after receiving a blow to their ego (Toma and Hancock 2013). Unfortunately, these online profiles may not always be a true reflection of the person's offline self. Facebook users tend to believe that other users are happier and more successful than they are and this is more prevalent when the users do not know each other offline. This can result in users comparing their realistic offline selves to the unrealistic online selves of others (Chou & Edge, 2012). Interestingly, a study carried out by Pempek, Yermolayeva, & Calvert, 2009), found that college students spend more time observing profile content of others than actually posting personal content. This Facebook activity known as "lurking or "stalking" is one of the most popular Facebook activities among college students (Junco 2012a; Pempek et al. 2009).

With the average time spent on Facebook a day recorded between 40 and 60 minutes this activity has other implications. A study carried out by Kross, Verduyn, Demiralp, Park, Lee, Lin, Shablack, Jonides & Ybarra, (2013) looked at participant's frequency of Facebook use and subjective well-being over time and found that Facebook use predicted a decline in subjective well-being.

Previous Research

Online environments provide the individual with the perfect setting to create the ideal identity. With face-to-face contact identity is immediate; gender, weight, height, attractiveness are all evident with the first interaction. This does not allow for impression management, there is no room for touching up or displaying only the desirable part of the identity (Walther, 2007). Facebook on the other hand allows the individual to create the perfect self-image. A study carried out by Kramer and Winter (2008), found that the most important motive for hosting a personal homepage on Facebook was for impression management and self-expression. Although the individual may have control of the impression of themselves that they display, there are still dangers with online activity with regard to what that person believes other people think of their personal information however altered, and also what affect information about others has on them.

Festinger (1954), suggested that people use Social Networking sites as a basis for social comparison or self-enhancement (Gruder,1971;Wills,1981). Upward social comparison is comparing oneself with superior others who have positive characteristics, whereas downward social comparison is comparing oneself with inferior others who have negative characteristics (Wood, 1989). Upward comparison can be beneficial when it encourages a person to become more like their comparison person (Lockwood & Kunda, 1997). However it is more likely to heighten feelings of inadequacy and cause a negative effect (Marsh &

Parker, 1984). Downward comparisons are motivated by one's desire to improve self-esteem or protect self-esteem that is threatened (Pomery, 2012). Similarity is a factor to be considered when someone is comparing themselves to another person. People prefer to compare with others they perceive to be similar to themselves (Pomery, 2012). Comparison also varies with gender as women are more likely to compare than men. Gibbons and Buunk (1999) found that people who are more self-conscious and who are highly self-reflective tend to make more social comparisons. They also noted that high comparers are more likely to experience mood swings, have lower self-esteem, and be more depressed than low comparers. Therefore, this study will examine levels of self-esteem in order to identify a correlation with Facebook Activity.

Self-esteem

Self-esteem refers to an individual's evaluation of their self-worth or the extent to which they appreciate, value or like themselves (Blascovich and Tomaka, 1991). It is the internal monitor of social acceptance and belonging and if the individual has high self-esteem then they have succeeded in this belief (Leary, Tambor, Terdal, & Downs 1995). This self-worth is not restricted to the individual self as the individual also sees themselves as part of a social group which can be evaluated as the collective self-esteem. The value that is placed on this collective self-esteem is also very important to the individual (Luhtanen and Crocker, 1992).

Gonzales and Hancock (2011), conducted a study to see the effects Facebook has on self-esteem compared to traditional self-awareness enhancing stimuli such as a mirror or photo image of the self. They concluded, that exposure to information on one's Facebook profile enhances self-esteem, especially when a person edits information about the self, or selectively self-presents. Their study tried to understand how selective self-presentation

processes may influence impressions of the self. If we look in the mirror on any given day and view ourselves we might consider what we see to be unsatisfactory and this critical view of our image is likely to decrease our self-esteem. However, if we view our online profile and remove any imperfections with the click of a button this may improve our self-esteem. In this way Facebook provides us with the opportunity to present ourselves in the most favourable manner. This work by Gonzales and Hancock contradicted previous findings that suggested that there has to be consistency between the actual and the ideal self if we are to understand how information can affect self-esteem (Duval et al,1992). The Objective Self-Awareness Theory suggests that stimuli that prompt self-awareness activate discrepancies between oneself and social standards and consequently lower self-esteem (Fejfar, 2000; Ickes, 1973). These studies suggest that the Profile Image is very important to the individual on Facebook and this can improve the person's self-esteem if managed correctly. This is not a true reflection of the person but a manufactured one for approval. Therefore, this could result in the person looking elsewhere on Facebook to corroborate their feelings about themselves.

These findings provide us with an understanding that the information displayed on Facebook tends to be biased towards positive images and interesting events and this, in itself, can be cause for concern. When Facebook users compare themselves socially, they may not believe their lives are as interesting or as happy as their Facebook friends and this in turn can leave them with lower self-esteem. One of the largest Facebook studies that was carried out by Denti, Barbopoulos, Nilsson, Holmberg, Thulin, Wendeblad & Davidsson, (2012), at the Gothenburg Research Institute, Sweden found that there was a significant relationship between time spent on Facebook and well-being for women but interestingly not for men. They also found that Facebook users, who compare themselves to others, showed both lower self-esteem and lower subjective well-being. This social comparison may undermine the

individual's self worth when they think that their Facebook friends are having better lives and appear happier than they feel themselves.

Further research in this area carried out by Soraya Mehdizadeh (2010), looked at identifying if there was a correlation between individuals with low self-esteem and the amount of time spent on Facebook. Her results indicated that there was a significant negative correlation between self-esteem and Facebook Activity. Her research also found a significant positive correlation between individuals who scored higher on the NPI-16, and the number of times they checked their Facebook account each day. Previous evidence suggested that individuals lower in self-esteem and higher in narcissism were related to greater online activity (Mehdizadeh, 2010). It can be seen from the literature that self-esteem is an important variable when we try to understand what drives Facebook use. As a result it will be examined in the current research as a predictor of Facebook Activity.

Narcissism

In trying to understand Facebook Activity, it is important to also consider the personality trait of Narcissism which can manifest itself on this site. Narcissism is a pervasive pattern of grandiosity, need for admiration and an exaggerated sense of self-importance (Oltmanns et al, 2006). Narcissism is associated with positive self views including intelligence, physical attractiveness and power. Narcissistic people tend to seek out relationships that make them appear powerful but these relationships do not last long and have been found to be strained (Campbell, Foster, & Finken, 2002). Research has confirmed that narcissistic people have higher levels of social activity and are more prevalent to self-promoting on the Web pages (Buffardi & Campbell, 2008). Nevertheless, narcissists are self-absorbed and need an adoring audience to sustain them and if denied this special attention they can react negatively and in extreme circumstances with rage or humiliation (Byrne &

O'Brien 2014). Constant attention and positive evaluations from others is needed to maintain a brittle and exaggerated sense of self-esteem (American Psychiatric Association, 2013).

Soraya Mehdizadeh's study, conducted in 2010 examined the effects of Narcissism and Self-esteem on online social activity and the association with online self-promotional content. In her findings there was a significant positive correlation between individuals who scored higher on the NPI-16, the number of times Facebook was checked per day and the time spent on Facebook per session (Mehdizadeh, 2010). Conflicting evidence from a later study carried out by Pettijohn, LaPiene and Horting (2012), found that although individuals who showed high on Narcissism had a greater number of Facebook friends and connections on the social network, there was no significance with their Facebook intensity (duration and levels of use).

Facebook Activity

Facebook has become more accessible to people with the addition of smartphones, laptop computers and tablets. Information is always obtainable. Surfing, browsing or updating is at the tip of your fingers once you have these mobile devices. According to Denti et al., (2012), who carried out one of the largest Facebook studies in Sweden, the average person spends 75.2 minutes on Facebook each day, and the majority of their participants admitted to signing into Facebook every time they turned on their computer as part of their daily routine. Interestingly, half of the participants said that they found it hard to keep up socially without Facebook (Denti et al., 2012). This study also highlighted the frequency of Facebook use by age difference. On average the younger users spend more time on Facebook but do so to pass time or to review other peoples profiles. This may open them to more vulnerability by comparing themselves to others on the site. The older users spend

more time getting to know people and socially interacting with them but this can also have a negative effect if they feel their lives are lacking (Denti et al., 2012).

Rationale of Current Study

This current study will examine the need to be connected in an online environment. Previous studies suggested that mixed feelings between the online self (that is with us constantly through mobile devices) and the offline self (our true self) can affect our self-esteem (Caplan, 2005). One of the future directions recommended by Soraya Mehdizaheh in her study was to expand the sample across a more diverse age group with a variety of settings. The current study will address this by way of sampling full-time and part-time students within two different age groups. The first sample group will comprise college students within the age range of 18yrs–23yrs and the second group, although also college students, will comprise part-time students aged 24yrs and above. It is hoped that this study will add to the research on the correlation between Facebook activity and the constructs of Self-esteem and Narcissism by looking at aspects of time spent on Facebook and the effects it has on these constructs. This study will also look at the difference in Facebook activity between the age groups and the difference in self-esteem between the groups. Our Self-esteem is one of the most important factors in living a happy life and avoiding negativity that can lead to depression. Roberts, Gotlib & Kassel (1996), found depletions in levels of self-esteem in their participants led directly to an increase in depressive symptoms. Therefore this study will look at hypotheses in relation to Self-esteem, Narcissism and Facebook Activity.

Narcissistic individuals are characterised by a positive and exaggerated view of themselves, including their physical attractiveness and importance (Campbell et al., 2002). Alloway et al., (2014) found a significant relationship between commenting on and viewing photos on Facebook and Narcissism in both men and women. They also suggested that it may

be the attention received by the narcissist that was the important factor. This attention can be achieved by updating their profile photo to display the physical attractiveness and exaggerated view of themselves. However, their study did conclude that time spent on Facebook was not predictive of Narcissism in males or females.

It is hoped that the age profile of the participants in this study will add a dimension to previous research in relation to the different Facebook patterns of use as well as highlighting the duration of time spent actively on Facebook. The comparison between the groups will investigate if the time spent on Facebook is higher or lower with age and also how this use of Facebook correlates with the constructs Self-esteem and Narcissism.

Our hypotheses therefore are as follows;

1. There will be a significant relationship between Facebook Activity and Self-esteem in 18-23yr olds.
2. There will be a significant relationship between Facebook Activity and Self-esteem in 24yr olds and over.
3. There will be a significant difference in Self-esteem between the groups.
4. There will be a significant relationship between Facebook Activity and Narcissism in 18-23yr olds.
5. There will be a significant relationship between Facebook Activity and Narcissism in 24yr olds and over.
6. There will be a significant difference in Facebook Activity between the group

Method

Participants

The participants for this study were full-time and part-time college students over 18 years of age. The total number of participants was 82 (35 male and 47 female). There were two missing values for age resulting in the age profiles being analyzed on a total of 80 participants (n=80). Within the 18-23 year group there were 42.5% (n=17) male and 57.5% (n=23) female. In the 24yr and over group there were 40% (n=16) male and 60% (n=24) female. The age range for the groups was between 18yrs and 61yrs with a mean age of 27.45 (M=27.45,SD=9.76). Participants were selected by way of convenience sampling. Permission was sought from the lecturers at Dublin Business School to address their students and request their participation in the survey. Participation in the study was completely voluntary and anonymous. This method was only partially successful as the number of respondents was inadequate for the required sample size. To overcome this difficulty a Snowball sample was obtained from another Dublin university and these students were invited to participate and also to invite others to participate in completing the questionnaire pack. No incentives were used with either group.

Design

The study employed a quantitative design using correlation for Hypotheses 1,2,4,5 & 6. The psychological factors examined as predictor variables were self-esteem and narcissism and the criterion variable examined was Facebook Activity. The data was found to be not normally distributed resulting in a Spearman's Rho and Mann Whitney U Analysis being carried out for these hypotheses. An independent sample t-test was used for Hypothesis 3 to measure the difference in Self-esteem between the groups as this data passed the assumption of normality.

Materials

A questionnaire pack was created manually and distributed to all participants by way of group distribution and snowball sampling. Demographic information gender, age and confirmation of Facebook Account was requested. No information that could identify an individual respondent was collected. There were three questionnaires in total and the participants were requested to answer all questions. The questionnaire pack included a cover page that invited the students to participate in the survey and explained the process. It outlined the voluntary nature of the survey and gave contact details of the Author, Supervisor and appropriate help lines should the student require further information or assistance at a later time. (*Appendix 1*)

The following questionnaires were incorporated in the pack.

Narcissistic Personality Inventory-16 (Ames et al., 2006)

Narcissistic Personality Inventory-16 (NPI-16) (Appendix 2) was adapted from the 40 item Narcissistic Personality Inventory (Raskin & Terry, 1988). Gentile et al., (2013), compared the results of the NPI-16 with NPI-40 and found it comparable in terms of convergent and discriminant validity and demonstrated adequate overall reliability (.80). The 16-item questionnaire had two response statements and required participants to choose the statement that was most consistent with their personality. An example of the instructions and questions are as follows; *Read each pair of statements below and place an “x” by the one that comes closest to describing your feelings and beliefs about yourself. “I don’t like it when I find myself manipulating people or I find it easy to manipulate people”. “When people compliment me I sometimes get embarrassed or I know that I am good because*

everybody keeps telling me so". One statement is consistent with Narcissistic Personality while the other is not. A score of 1 was given to the response that was consistent with narcissism and a score of 2 was given to the response inconsistent with narcissism. A SPSS syntax was used to recode the data as follows; RECODE sn1 sn3 sn6 sn8 sn9 sn11 sn14 sn16 (1=1) (2=0) sn2 sn4 sn5 sn7 sn10 sn12 sn13 sn15 (1=0) (2=1). A total score was computed by adding the scores for all the questions. The higher scores showed greater narcissistic traits. The Data set consisted of 82 participants (N = 82), there were 16 questions (N=16) and no negative values. The NPI-16 subscale appeared to have good internal consistency, $\alpha = .83$.

The Rosenberg Self-Esteem Scale (Rosenberg, 1965)

The Rosenberg Self-Esteem Scale, (**Appendix 3**) measures the general sense of perceived self-esteem in users. The questionnaire consists of 10 items and participants were instructed to score each item in accordance with their level of agreement from a four-point likert scale where 0 = "strongly disagree" 1= "disagree" 2 = "agree" and 3 = "strongly agree" Examples of items asked were "I feel I have a number of good qualities"; "I feel that I'm a person of worth, at least on an equal plane with others"; "I feel I do not have much to be proud of". Reverse scoring was carried out on questions 2, 5, 6, 8, and 9. Possible self-esteem scores range from 0-30. The higher the score indicated higher self-esteem in the individual. The Data set consisted of 82 participants (N=82) and the number of questions asked was 10 (N=10). There were no negative values and the Rosenberg Self Esteem scale had good internal consistency, $\alpha = .89$.

The Facebook Intensity Scale (Ellison et al, 2007)

The Facebook Intensity Scale (Appendix 4) measures the intensity of Facebook Use. The scale relies on a self-report of Facebook behaviour and measures the time the individual spends on Facebook per day, the number of friends recorded and also the importance of Facebook to the individual. The Facebook Intensity Scale has a number of questions relating to what Facebook means to the person. An example of these questions are as follows; “I am proud to tell people I’m on Facebook”; “I feel out of touch when I haven’t logged onto Facebook for a while” or “I feel I am part of the Facebook community”. There are also questions in relation to social use of Facebook - an example of this type of question would be; “I have used Facebook to check out someone I met socially”; “I use Facebook to browse profiles of people who are not my friends”. It also asks the individual about their own profile, “I feel my Facebook profile gives others a positive impression of me”. Time spent on Facebook is also captured by the question “In the past week, on average, approximately how much time Per Day have you spent actively using Facebook?” This information is captured by minutes, 0-15 =1, 16-30=2, 31-45=3, 46-60=4 and 61 or more =5. The participants are instructed to score each item in accordance with their level of agreement from a 5 point likert scale. The Facebook Intensity Scale also measures the number of friends the individual has on Facebook. This is broken down into 100 or less =1, 101-200 =2, 201-300 =3, 301-400=4, 401-500=5 and more than 500=6. The Data set consisted of 82 participants (N=82). The number of questions asked was 11 (N=11) and there were no negative values. The Facebook Intensity Scale appeared to have good internal consistency $\alpha = .91$.

Procedure

The data was collected by way of self-report questionnaires that were completed during lecture time by the Dublin Business School students. The Author addressed the students after receiving prior permission from the lecturer. A verbal description of the study was given to the participants outlining the approximate time the survey would take to complete, its voluntary nature and anonymity. An information page preceded the first questionnaire that also described the study and again informed the participants that it was both voluntary and anonymous. The lecturer remained in the room and the survey took approximately 15 minutes to complete. Help Line numbers and contact details were included in the information page should any participant require them at a later date. In addition, a snowball sample was obtained from students of another Dublin university. They were invited to take part in the survey by way of completing the questionnaires. The same information sheet describing the study was attached and participants were advised that their participation was both anonymous and voluntary. They were also advised to contact the author if they had any problems regarding the survey.

Results

The aim of the study was to establish if there was a relationship between Facebook Activity and the constructs Self-esteem and Narcissism in 18-23 year old participants and 24yr old and above. It also tried to identify a difference in Self-esteem between the age groups and a difference in Facebook Activity between the groups. Data Analysis was conducted by using SPSS version 22. Descriptive statistics displayed the number of participants in this study (N=82) and the gender breakdown for the respondents. As seen in Table 1 there were more female participants (N=47) than male participants in the study. Descriptive statistics were also used to show a breakdown of the age profile for the participants, as seen in Table 2 the mean age is 27 years (M=27.45). Table 3 shows the breakdown of the age profile within the groups. Inferential statistics were drawn to analyse the correlation for Self-Esteem, Facebook Activity and Narcissism.

Descriptive Statistics

Table 1: *Descriptive statistics by Gender*

Variables	Frequency	Percent	Valid Percent	Cumulative Percent
Male	35	42.7	42.7	42.7
Female	47	57.3	57.3	100.0
Total	82	100.0	100.0	

As Table 1 shows, the total number of participants in the study was 82 (n=82). 42.7% (n=35) were male and 57.3% (n=47) were female.

Table 2: *Descriptive statistics for Age*

Age Descriptive	Mean	Std. Deviation	Minimum	Maximum
Participants 80	27.45	9.76	19	61

As displayed in table 2, the mean age is 27 years (M=27.45, SD 9.76) which means on average the respondents were 27 years old. The minimum age was 19 and the maximum age was 61. The total number of participants for age distribution was 80 (n=80) as there was two missing values from the full data set.

Table 3: *Descriptive statistics for Age and Gender by group*

Age Group		Frequency	Percent	Valid Percent	Cumulative Percent
.	Missing male	2	100.0	100.0	100.0
18-23	Valid male	17	42.5	42.5	42.5
	female	23	57.5	57.5	57.5
	Total	40	100.0	100.0	
24 and above	Valid male	16	40.0	40.0	40.0
	female	24	60.0	60.0	100.0
	Total	40	100.0	100.0	

Table 3 shows the distribution of age and gender between the groups. The 18-23yr group had a total 42.5% (n=17) male and 57.5% (n=23) female participants. The 24yr and older group had 40% (n=16) male and 60% (n=24) female participation.

Table 4: *Descriptive Statistic For Self-Esteem, Narcissistic Scale and Facebook Intensity Scale*

Variables	Mean	Std. Deviation	Minimum	Maximum
Self-Esteem	20.32	4.77	9.00	30.00
NPI-16	4.44	3.78	0.00	16.00
Facebook	3.32	0.96	1.18	5.00

Table 4 shows the distribution of answers participants gave to the Rosenberg Self-esteem, the NPI-16 and the Facebook Intensity Scale questionnaire.

The Rosenberg Self-esteem scale had a maximum score of 30 which indicated higher self esteem. The mean score for Self-esteem was 20.32 (M=20.32,SD=4.77). The NPI-16 had a maximum score of 16 which indicated higher narcissistic traits. The Mean score for the NPI-16 was 4.44 (M=4.44, SD =3.78) and the Facebook Intensity Scale had a maximum score of 5 which showed higher Facebook Activity. The Mean score for the Facebook Intensity Scale was 3.32 (M=3.32, SD=0.96).

Inferential Statistics

Correlation Analysis For Self-Esteem, Facebook Intensity Scale and Narcissistic Scale Test of normality was carried out to identify whether the three variables were normally distributed. Self-esteem scale was normally distributed ($p = .145$) as observed with the Shapiro Wilk test for normality. However Facebook Intensity Scale and NPI-16 were not normally distributed, both $p < .05$ (See Table 5).

Table 5: *Test For Normality: Self-Esteem, Facebook Intensity and NPI-16*

Variables	Shapiro-Wilk		
	Statistic	df	Sig.
Self-Esteem Scale	.977	82	.145
Facebook Intensity Scale	.941	82	.001
NPI-16	.900	82	.000

Spearman correlation analysis was used to examine the relationship between the three variables because the data violated the normality assumption recommended for using Pearson Correlation.

Table 6: *Correlation Between Self-Esteem, Facebook Intensity Scale and NPI-16*

Variables	1.	2.
1. Self-Esteem	--	
2. Facebook Intensity Scale	.067	--
3. NPI-16	.308*	.092

Note: *. Correlation is significant at the .01 level (2-tailed)

Table 6 highlights that there is no significant relationship between Facebook Intensity and Self-esteem ($r(n=82)=.067, p = .55$) or Facebook Intensity and NPI-16 ($r(n=82)=.092, p = .41$). However there was a significantly positive relationship between Self-Esteem and NPI-16 ($r(n=82)= .308, p < .05$).

The r value of .308 indicates that there is a weak relationship between Self-Esteem and NPI-16

A Review of the Hypotheses tested

Hypothesis 3: There will be a significant difference in Self-esteem between the groups.

In relation to the third hypothesis that there will be a significant difference in self-esteem between the age groups, the result was consistent with the expectation. The data passed the assumption of the Shapiro Wilk test, visual observation of box-plots shows that there was no outliers for both age groups and the assumption of equality of variance was also passed as observed using Levene's test ($p = .92$). An Independent samples t-test highlighted that Age Group 1 (18-23 years) ($M = 19.02$, $SD = 4.57$) have a significantly lower self-esteem score compared to Age Group 2 (24 and Above) ($M = 21.48$, $SD = 4.76$), $t(78) = -3.25$, $p = .021$, $\eta p^2 = .12$. Therefore, the null hypothesis was rejected.

Difference in Self-esteem between the Groups

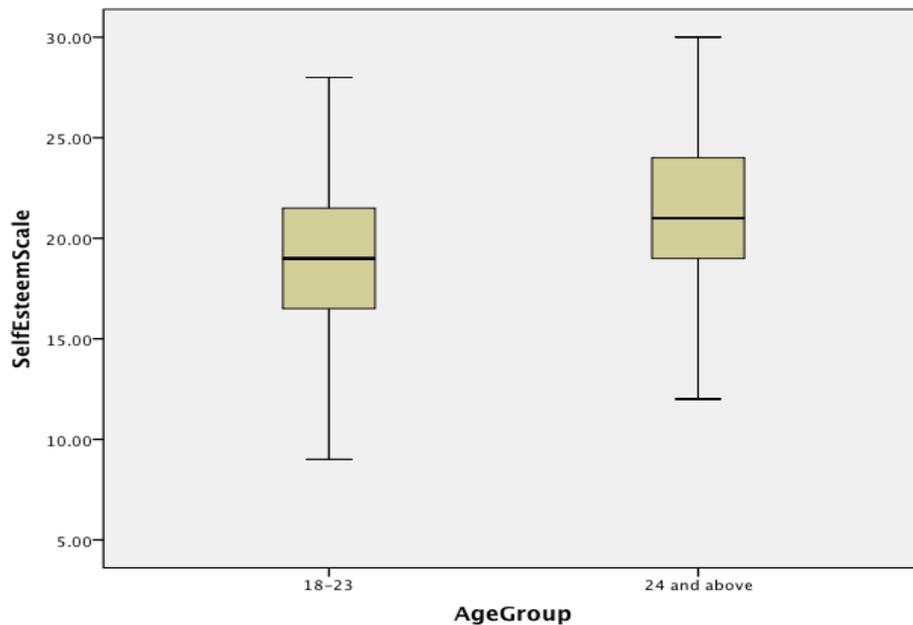


Figure 2

This box chart shows the younger age group displayed a lower self-esteem.

Group 1 (18-23 yrs) ($M = 19.02$, $SD = 4.57$), Group 2 (24 and Above) ($M = 21.48$, $SD = 4.76$)

Hypothesis 6: *There will be a significant difference in Facebook Activity between the groups.*

As a result of the data not having a normal distribution a Mann Whitney U analysis was carried for this hypothesis. The mean score for Age Group 1 (18-23 years) was 3.73 (SD=0.71) and the mean score for Age group 2 (24 yrs and above) was 2.96 (SD=1.02) Age group 1 had a significantly higher Facebook Intensity Scale compared to Age Group 2 (24 and Above) $U = 429.5, p < .001$. Therefore, the null hypothesis was rejected.

Hypothesis 1: *There will be a significant relationship between Facebook Activity and Self-esteem in 18-23yr olds.*

As a result of the data not having a normal distribution, a Spearman's Rho coefficient was carried out to examine this hypothesis and no significant correlation was found $r(40)=.296, p=.065$). However, as can be seen, this result was barely insignificant and further testing with a larger group may be considered for further examination. Nevertheless, the null hypothesis cannot be rejected for this test.

Hypothesis 2: *There will be a significant relationship between Facebook Activity and Self-esteem in 24yr olds and above.*

A Spearman's Rho coefficient was carried out to examine this hypothesis as the data did not have a normal distribution. No significant correlation was found, $r(N=40)=.061, p=.708$). Therefore, the null hypothesis cannot be rejected.

Hypothesis 4: *There will be a significant relationship between Facebook Activity and Narcissism in 18-23yr olds.*

A Spearman's Rho coefficient was carried out as the data was not normally distributed.

No significant relationship was found $r(N=40) = -.015, p=.925$.

Therefore the null hypothesis cannot be rejected for this test.

Hypothesis 5: *There will be a significant relationship between Facebook Activity and Narcissism in 24yr old and above.*

A Spearman's Rho coefficient was carried on this hypothesis as the data was not normally distributed. No significant relationship was found. $r(N=40) = -.007, p=.964$.

Therefore the null hypothesis cannot be rejected for this test.

Discussion

The aim of the current study was to investigate the relationship between Facebook activity and two constructs, Self-esteem and Narcissism. Social Media has become part of our every day lives and in particular Facebook, which has over 1.32 billion global monthly active users. The accessibility to this site through mobile devices has made it easier to stay connected but this online need can also have negative psychological effects on the constructs self-esteem and narcissism.

Research carried out in Sweden by Denti et al., (2012), found a significant negative relationship between Self-esteem and Facebook Activity. They surveyed 335 men and 676 women and their results showed that as Facebook activity increased self-esteem decreased. They also noted that the main difference in the results was by gender and women who used the site were more likely to be less content with their lives. This study looked at these constructs by age groups, 18-23 years and 24 years and older to try and identify if there was a significant difference in Self-esteem between the groups and also if there was a significant difference in Facebook activity between the groups. It looked for correlations between Self-esteem and Facebook Activity and Narcissism and Facebook Activity for each age group. There were six hypotheses examined and we will look at each one separately.

The first hypothesis stated that there would be a significant relationship between Facebook Activity and Self-esteem in the 18-23yr old cohort. Although the study did not find a significant relationship, the data analysis did show that the results were approaching significance for this test. The sampling group had a total of 82 participants and this may have been insufficient to obtain a significant relationship. There have been a number of studies

carried out on Self-esteem and Facebook activity with contradicting results, Kross et al., (2013) found that frequency of Facebook use and subjective well-being over time did have a correlation resulting in a decline in the participant's well-being. However, Gonzales and Hancock (2011) examined the effect Facebook use had on self-esteem compared to the traditional self-enhancement methods of the mirror or a photo of oneself and found that when a person self-selects the image they want to portray of themselves this had a positive effect on their self-esteem. These studies do highlight the correlation between Facebook Activity and Self-esteem and there is support for both positive and negative effect. Although our results were not conclusive- if our population size was greater then we may have been more likely to corroborate one of the above studies.

The second hypothesis looked for a significant relationship between Facebook Activity and Self-esteem in the age group 24 years and above. The results found that there was no significant relationship for this age group and sample size may have contributed to this result also. However, findings of significant relationships in Facebook Activity and Self-esteem have been reported in previous research. Denti et al., (2012) found that comparing oneself to others online brought about lower self-esteem and lower subjective well-being in the individual. They also reported a relationship between time spent on Facebook and well-being for women but not for men. Interestingly, the number of participants in their study was 1011 and this was divided into 335 men and 676 women with an average age of 32.6 years. In addition, Mehdizadeh, (2010) found a significant correlation with participants who scored lower on the Rosenberg Self-esteem scale and the amount of time they spent on Facebook. Even with the variance in sampling size these studies give support to a correlation between Facebook usage and low self-esteem in different groups.

The third hypothesis stated that there would be a significant difference in Self-esteem between the two groups. The result was consistent with the expectations. The age group 18-23years showed a lower self-esteem result than the 24year old and over. This was also consistent with a longitudinal study carried out by Orth, Robins & Widaman (2012) who identified that self-esteem increases from adolescence to middle adulthood, peaked in the age range 50-60 years and then decreased with old age.

Their results suggested that employment status, household income, relationships and health all contributed to a positive self-esteem. They did not however refer to social media as a factor for the variance of this construct. The findings identify with lifestyle of the middle adult group are consistent with the results of the current study that reported a higher self-esteem for the older age group.

However, in trying to understand the lower self-esteem in the younger group it is useful to look at a study from Chou & Edge (2012) where they researched Facebook use on people's perceptions of others. Their study showed that individuals who spent the most time engaging in Facebook activity believed that other users were happier and more successful than they were themselves. They believed this from viewing other peoples photos and updates and only concentrated on the positive information posted by them such as; social events, holidays, and favourable photos.

This activity can result in Facebook users comparing their realistic offline selves to the unrealistic online selves of others (Chou & Edge, 2012). Similar research conducted by Gibbons & Buunk (1999) showed that individuals who are more self-conscious and who are highly self-reflective tend to make more upward social comparisons and as a result are more prone to experience mood swings, depression and have a lower self-esteem. The results of these studies are important in trying to understand how self-esteem manifests itself over time and also how different variables can enhance or damage it. This study has identified a

significant difference in Self-esteem between the groups but it is also important to examine the difference in Facebook Activity between the groups.

We will therefore look at our sixth hypothesis, that there would be a significant difference in Facebook Activity between the groups. The result of the statistical test was consistent with this hypothesis. The younger age group 18-23 years had higher Facebook Activity than the 24 year olds and over. According to Lenhart, Maden (2007), people use Social Media Sites to keep in touch with friends or for romantic relationships. In addition, Ridings & Gefen (2004) found that the need to belong to a community and share information and self-identity promoted the use of the Web. However, when looking at the variance in the groups we can refer to a study conducted by Kramer & Winter (2008), who found that the most important motive for hosting a personal homepage on Facebook was for impression management and self-expression. This may be one reason for the higher Facebook activity in the younger age group.

Using Facebook to create a positive profile is very enticing, the individual can include information and photographs that portray a positive impression of themselves and they are in control of the image they promote online. Not alone is the individual's image important but also the image portrayed by others. Similar research conducted by Pempek et al., (2009), reported that college students spend more time observing profile content of others than actually posting personal content. The Facebook activity known as "lurking" or "stalking" is one of the most popular Facebook Activities among college students (Junco 2012a; Pempek et al., 2009). This may be one of the reasons for the higher volume of Facebook use for the younger age group although we should also consider the advancements in technology and the accessibility of Facebook on smartphones and other mobile devices. This can be a very convenient way of communicating to a large number of friends but there are positive and negative psychological effects associated with this behaviour. One such negative effect that is

very prevalent in society today is cyber-bullying. The Irish Society for the Prevention of Cruelty to Children (ISPCC) launched the fourth national ISPCC Annual Shield Campaign on the 9th March 2015. This campaign set out to raise awareness of the effects cyber-bullying is having on children and is trying to tackle the problem by working with parents, schools and clubs to make it a national priority ISPCC, (2015). The increasing level of activity on Social Media gives greater possibility to cyber-bullying.

The fourth and fifth hypotheses looked for a significant relationship between Facebook Activity and Narcissism in 18-23 yr olds and 24year olds and over. The current study found no significant relationship for these hypotheses. This finding is consistent with previous research by Bergman, Davenport, Fearington and Bergman, (2011), although they found there was no correlation between narcissism and time spent on Facebook. They did however identify that narcissism predicted a reason for Facebook Use, such as; having as many Facebook friends as possible, wanting their friends to know what they were doing and having their profile portray a positive personal image. The interpretation of these studies provided an understanding of how the narcissist uses Facebook for their self-enhancement and also how this can impact on self-esteem. Soraya Mehdizadeh, (2010), conducted a study in relation to offline personality trait of narcissism to see if it manifested itself online and found a significant positive relationship between individuals who scored high on the NPI-16 and the time they spent on Facebook. Further research in this area conducted by Buffardi & Campbell, (2008) looked at narcissism and social networking sites and found that narcissism predicted a higher level of social activity on line and had a higher level of self-promoting on the site. Although the current study did not find a significant relationship between Narcissism and Facebook Activity, it did establish a significant relationship between Narcissism and Self-esteem. Characteristics of Narcissism can be defined as a need for admiration, lack of empathy and arrogance (American Psychiatric Association, 2013), whereas Self-esteem can

be characterised as having a healthy and realistic positive self-concept and the maintenance of stable and meaningful relationships (Kerins, 2013). They are very different constructs but research has shown that the correlation between Narcissism and Self-esteem is not uncommon. Narcissistic individuals “*tend to have extremely high self-esteem, believing they are somehow special and superior to others, but at the same time, their self-esteem is unstable. As a result, they are reliant on validation from others in order to maintain their fragile positive self-concept*” (Crisp & Turner, 2010, p. 25). Building on this previous research Kasser & Ryan (1996), identified narcissism as a personality trait that was predominantly associated with extrinsic goals and a person that concentrated on them was more likely to have low physical and psychological well-being. Although our current study did not show a significant relationship between Facebook Activity and Narcissism it is an area worth further consideration.

Limitations of the current study

The major limitation of this study was sample size and this inhibited the findings. It was likely a constraining factor with some of the results as in Hypothesis 1 when a relationship between Facebook Activity and Self-esteem in 18-23 year olds was found to be almost significant. A larger sample group may have given way to a more significant result. Although this study did focus on full-time and part-time college students, further research could be more definitive from a more varied group of participants.

Conclusion

We have seen from our findings that there is a significant difference in Facebook Activity between the groups. Facebook has become part of the daily routine and many people feel they are missing out if they are not continually connected online. It appears to be a very convenient way of communicating to a large number of friends but there are positive and negative psychological effects associated with this behaviour. It is hoped that the current study, despite its limitations, will add to research in the area of online social life and implications for relationships and behaviours. As noted by Orth, Robins & Widaman (2012), self-esteem develops with age and a mounting body of evidence suggests that younger people have greater Facebook activity and also lower self-esteem. A greater understanding of the drivers of Facebook use could help in protecting the self-esteem of the younger users.

Denti et al., (2012) reported that time spent on Facebook was relevant to the age of the users, for example participants aged between 14-26 years spend 82.5 minutes a day on Facebook whereas 27-35 spend 72.7 minutes and 36-73 spend 69.2 minutes. These facts coupled with the low self-esteem findings are worrying when we take into consideration some of the social difficulties associated with internet use.

Even-though the current study did not find direct correlation between Facebook Activity and Self-esteem it did report significantly lower self-esteem in the younger group of participants compared to the older group and also a significantly higher Facebook Activity.

It is therefore worth considering further studies that have looked at the implications of these findings on the younger generation. Nie and Erbring (2000) reported that 25% of individuals who use the internet for over 5 hours weekly spend less time with their friends and families and 10% are not interested in outside activities. A further study by Suhail and Bargees (2006), found that internet use can cause younger people to experience difficulties in interpersonal relations, and similar research conducted by Kraut et al., (1998) found that

children who use the internet are lonelier and have difficulty making contact face to face. According to Shotton (1991), individuals with lower self-esteem have a greater tendency for internet addiction. These research findings are a cause for concern for the younger generation. The current study also found that the younger group had higher Facebook Activity than the older group and coupled with the lower self-esteem findings, this study may contribute to future research and help develop a better understanding of this problem.

While time spent online can be very productive, and each persons' social and internet use is different, it is important to understand that compulsive Internet use can interfere with daily life, work, and relationships. This can have a psychological effect on the individual and cause further mental health problems. Low self-esteem, depression and anxiety are all associated with internet addiction (Shotton, 1991).

The use of Social Media by the younger age cohort appears to be a key element in their feeling of low self-esteem. Current studies have focused on College Students, at which point they have engaged in Social Media, thus making it difficult to fully assess the impact of such media. This suggests that there would be significant value in conducting a longitudinal study that examines the self-esteem in younger people prior to engaging in social media with their feelings of esteem post social media experience. Establishing this impact should lead to proposals for the minimization of the negative impacts while maintaining the very positive benefits of Social Media activity.

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APPENDIX 1

Is there a correlation between Facebook Activity and the constructs Narcissism and Self-Esteem?

My name is Eleanor Landers and I am conducting research in the Department of Psychology that explores how Facebook activity correlates with the constructs Narcissism and Self-Esteem. The research is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. 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 on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participation is anonymous and confidential. Thus 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 questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password-protected computer.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact Eleanor Landers at Dublin Business School, part-time student.

My Supervisor Pauline Hyland can be contacted at XXXXXX@dbs.ie

Thank you for taking the time to complete this survey.

APPENDIX 2

NPI-16 Subclinical Narcissism Questionnaire

Read each pair of statements below and place an “X” by the one that comes closest to describing your feelings and beliefs about yourself. You may feel that neither statement describes you well, but please pick the one that comes closest. Please complete all pairs.

1. _____ It makes me uncomfortable to be the center of attention
 _____ I really like to be the center of attention
2. _____ I think I am a special person
 _____ I am no better or no worse than most people
3. _____ Sometimes I tell good stories
 _____ Everybody likes to hear my stories
4. _____ I insist upon getting the respect that is due me
 _____ I usually get the respect that I deserve
5. _____ I like having authority over people
 _____ I don't mind following orders
6. _____ I hope I am going to be successful
 _____ I am going to be a great person
7. _____ I can make anybody believe anything I want them to
 _____ People sometimes believe what I tell them
8. _____ I like to do things for other people
 _____ I expect a great deal from other people
9. _____ I prefer to blend in with the crowd
 _____ I like to be the center of attention
10. _____ I am an extraordinary person
 _____ I am much like everybody else
11. _____ Sometimes I am not sure of what I am doing
 _____ I always know what I am doing
12. _____ I find it easy to manipulate people
 _____ I don't like it when I find myself manipulating people

13. _____ People always seem to recognise my authority
_____ Being an authority doesn't mean that much to me
14. _____ When people compliment me I sometimes get embarrassed
_____ I know that I am good because everybody keeps telling me so
15. _____ I am apt to show off if I get the chance
_____ I try not to be a show off
16. _____ There is a lot that I can learn from other people
_____ I am more capable than other people

Background: The NPI-16 items are drawn from across the dimensions of Raskin and Terry's (1988) 40-item measure. Relevant references are noted below.

Ames, Daniel R., Rose, Paul, and Anderson, Cameron P. (2006). The NPI-16 as a short measure of narcissism. *Journal of Research in Personality, 40*, 440-450.

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APPENDIX 3**Rosenberg Self-Esteem Scale**

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

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

6. I certainly feel useless at times.

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

10. I take a positive attitude toward myself.

Strongly Agree___ Agree___ Disagree___ Strongly Disagree___

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

APPENXIX 4**Demographic Questions:**

Male [] Female [] Age []

I have a Facebook Account: YES [] NO []

Facebook Intensity Questionnaire (FBI)

Below is a list of statements in relation to Facebook. Please indicate how strongly you agree or disagree with each statement.

1. Facebook is part of my everyday activity

Strongly Agree___ Agree___ Undecided___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Undecided___ Disagree___ Strongly Disagree___

3. Facebook has become part of my daily routine

Strongly Agree___ Agree___ Undecided___ Disagree___ Strongly Disagree___

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

Strongly Agree___ Agree___ Undecided___ Disagree___ Strongly Disagree___

5. I feel I am part of the Facebook community

Strongly Agree____ Agree____ Undecided ____ Disagree____ Strongly Disagree____

6. I would be sorry if Facebook shut down

Strongly Agree____ Agree____ Undecided____ Disagree____ Strongly Disagree____

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

100 or less____ 101-200____ 201-300____ 301-400____ 401-500____ more than 500____

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

0-15min____ 16-30min____ 31-45min____ 46-60min____ 61 or more____

9. Please indicate the extent to which you agree with the following statements:

I have used Facebook to check out someone I met socially.

Agree____ Strongly Agree____ Undecided____ Disagree____ Strongly Disagree____

I use Facebook to learn more about other people in my class.

Agree____ Strongly Agree____ Undecided____ Disagree____ Strongly Disagree____

I use Facebook to browse profiles of people who are not my friends.

Agree____ Strongly Agree____ Undecided____ Disagree____ Strongly Disagree____

10. I feel my Facebook profile gives others a positive impression of me.

Agree____ Strongly Agree____ Undecided____ Disagree____ Strongly Disagree____

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