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Abstract

The present study investigated the impact of type of Facebook use on well-being. Participants who spent time viewing and updating their own profiles were hypothesized to report higher life satisfaction and happiness than participants who spent time viewing other people's profiles. Self-reported Facebook use and personality trait measures were also investigated. A total of 56 female students enrolled in Psychology 1000 at Brescia University College participated in the study. Participants completed six questionnaires (personality assessment, self-esteem scale, narcissism scale, Facebook use questionnaire, satisfaction with life scale, and subjective happiness scale) and were randomly assigned to one of three conditions consisting of a 10-minute computer task (i.e. either own-profile viewing, other-profile viewing, or a control group). A between-subjects oneway Anova showed no significant relationship between the experimental groups and measures of well-being. Various personality traits were significantly correlated with self-reported Facebook use. Facebook use's impact on well-being remains unclear and requires further research.

Facebook: Social Benefit or Social Problem?

Among social networking sites (SNSs), Facebook has been reported as the most popular (Błachnio, Przepiórka, & Rudnicka, 2013; Caers et al., 2013; Kramer, Guillory, & Hancock, 2014). Additionally, the number of people who use Facebook has drastically increased and continues to increase dramatically (Błachnio et al., 2013; Caers et al., 2013; Kramer et al., 2014; Wilson, Gosling, & Graham, 2012). The Facebook phenomenon has impacted social interaction and may have implications for people's well-being (Kramer et al., 2014; Wilson et al., 2012). Additionally, from the time of the initial public release of Facebook, there has been a large quantity of contradictory research done on the effects of Facebook on well-being and mental health (Błachnio et al., 2013; Caers et al., 2013; Wilson et al., 2012). Among the growing number of topics, the most commonly researched include personality, motivation, and the relationship between Facebook and well-being (Błachnio et al., 2013; Caers et al., 2013). Facebook is a valuable SNS that can be used to investigate human behaviour within an online social network (Wilson et al., 2012). This phenomenon has implications for people's well-being and such the impact of these influences should be clarified. Facebook's rising influence on the internet has increased the importance of investigating whether Facebook exerts a positive or negative influence on its users (Błachnio et al., 2013; Caers et al., 2013; Wilson et al., 2012).

Considering the large amount of research, there is a lack of consistency among the research findings. Both positive (Deters & Mehl, 2013) and negative (Rosen, Whaling, Rab, Carrier, & Cheever, 2013) findings regarding the effects of Facebook use have been reported. Rosen et al. (2013) investigated Facebook's effects on clinical symptoms, such as personality (e.g. narcissism) and mood disorders (e.g. depression) using an online survey of adults. Participants completed a battery of personality questionnaires as well as measures for clinical

psychological disorders. Findings demonstrated that the main factors that predicted clinical symptoms in participants were impression management, friendship, and Facebook use. Moreover, findings indicated that Facebook use predicted higher levels of clinical psychological disorders among participants. In contrast, Deters and Mehl (2013) explored the impact of Facebook use on well-being using a web-based experimental design. Researchers found that participants who were asked to update their status more frequently experienced a decrease in loneliness, due, the researchers hypothesized, to an increase in level of connectivity with family and friends (Deters & Mehl, 2013). An internal Facebook study revealed that Facebook use might have clear implications for well-being (Kramer et al., 2014). Findings supported emotional changes based on a manipulation of what viewers saw on their Facebook. Kramer et al. (2014) found a positive linear relationship between the type of Facebook viewing (i.e. positive, negative, or neutral) and the resulting participant's emotional state (i.e. positive or negative). These results provided further evidence that Facebook research has not reached an agreement on Facebook's impact on well-being.

Comparing oneself with others has implications for well-being (Festinger, 1954; Gibbons & Buunk, 1999; Lee, 2014). People are constantly comparing themselves to others in their daily life (Festinger, 1954; Lee, 2014). Social comparison theory (SCT) refers to how people compare themselves to others in a variety of ways (e.g. self-identity, popularity) and how these comparisons impact an individual's self-esteem, self-confidence, and life satisfaction (Festinger, 1954; Gibbons & Buunk, 1999; Lee, 2014). This comparison is made whenever there is information presented about others (Festinger, 1954). Social comparisons therefore imply that self-evaluation happens within groups because people are comparing themselves to others with the information that is provided (Festinger, 1954). By nature, SNSs provide a great deal of

information about other people's lives. As SNSs become more popular, there is an increase in available information about the lives of other people, which has the potential to impact other's well-being in a positive or negative way (Błachnio et al., 2013; Caers et al., 2013; Lee, 2014).

Lee (2014) used an online survey of college students to examine how Facebook use impacted social comparison. An individual's social comparison frequency (SCF) on Facebook impacted the individual's measured self-esteem (Gibbons & Buunk, 1999; Lee, 2014). An increase in SCF correlated with lower self-esteem (Lee, 2014). Individual personality differences were also found to affect how social comparisons influenced each person. An association between Facebook use and social comparison was found, such that increased Facebook use correlated with higher social comparisons and resulted in a predicted negative feeling toward oneself (Lee, 2014). Therefore, it appeared that frequent Facebook activity negatively influenced participant's well-being (Gibbons & Buunk, 1999; Lee, 2014).

Błachnio et al. (2013) conducted a Facebook research review and found that past research has focused greatly on determining the relationship between the Five-Factor Model of personality and Facebook use. This model considers the classic 'OCEAN' personality traits: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (Błachnio et al., 2013; Caers et al., 2013). Openness to experience described those who have broad interests and are open to trying new things. Conscientiousness is a personality trait that characterized those who are hardworking and meticulous. Extraversion related to people who seek high social interactions and like to be with others. Agreeableness referred to people who are caring, thoughtful, and helpful. Neuroticism related to people who exhibit emotional instability. Past research demonstrated that participants who scored high in neuroticism spent more time

posting on their Facebook and used Facebook to fulfill a need for a sense of belonging; high neuroticism was related to more frequent profile updates (Błachnio et al., 2013).

The personality variable of narcissism has also been thoroughly researched. Błachnio et al. (2013) and Seidman (2013) examined the relationship between narcissism, type of Facebook use, and reasons for using Facebook. Narcissists were characterized as people who demonstrated self-infatuation and the need for dominance and self-gratification (Błachnio et al., 2013; Seidman, 2013). The findings of these studies demonstrated that narcissistic Facebook users tended to use Facebook for 'self-promotion' and to increase self-worth and self-esteem (Seidman, 2013). Furthermore, narcissism was linked to antisocial behaviours such as ignoring other's needs and vengeful responses to negative comments (Seidman, 2013).

Varied motives among Facebook users have been described in previous research. Personality traits and individual needs have also been identified as having influence on motives for Facebook use (Błachnio et al., 2013; Hew, 2011; Wilson et al., 2012). Finding and maintaining contact with friends and family were among the main motives for Facebook use (Hew, 2011; Wilson et al., 2012). Additionally, finding new friends, self-expression, and using up spare time were main motives for Facebook use (Błachnio et al., 2013; Hew, 2011; Sheldon, 2008; Wilson et al., 2012; Yang & Brown, 2013). Sheldon (2008) identified six factors for measuring motives for Facebook use: relationship maintenance, passing time, virtual participation, entertainment, coolness, and companionship. The six factors were used to examine which personality traits impacted motives for Facebook use. Contrary to some findings, extroversion was linked to companionship and relationship maintenance, meaning extroverts benefitted more from Facebook use compared to introverts (Caers et al., 2013; Sheldon, 2008).

Wilson et al. (2012) also discussed the three key methods used in past Facebook research: data crawling (i.e. getting Facebook user information through their profiles without their active participation), through offline content, and via Facebook applications. Both data crawling and via Facebook applications relied on online surveys and measures that do not involve active participation, such as content analyses of online material (e.g. Kramer et al., 2014; Seidman, 2013; Tazghini & Seidlecki, 2013; etc.). The offline content methods included experiments with participants conducted in both lab settings (Forest & Wood, 2012; Gonzales & Hancock, 2011; Yang & Brown, 2013) and outside of a lab setting (Błachnio et al., 2013; Caers et al., 2013; Deters & Mehl, 2013). Research by Forest and Wood (2012) was composed of three experiments; each involved active participants and increased in complexity. The first experiment used a battery of self-reports to measure personality and well-being. The second and third experiments collected similar self-reports and also collected past status updates from each participant. Other participants, without knowledge of the hypothesis of the study, then coded these status updates. Gonzales and Hancock (2011) also tested participants in a lab setting. Participants were either exposed to their own Facebook profile or to none at all. Those who were allowed to freely look or update their own profiles reported higher self-esteem than those who did not view their profiles. Although past Facebook research has utilized varying methodologies, a direct manipulation to compare conflicting findings had not been done. Previous research has not tried to synthesize past methodologies to explore the possibility of an interaction between positive and negative Facebook use effects on well-being.

A Facebook user's 'profile' is a crucial aspect of each member, which can be made to provide an authentic or, more likely, an unrealistic image of the user (Toma, 2013; Wilson et al., 2012). Users have the opportunity to describe themselves in the most positive way possible and

leave out any negative or unflattering personal attributes if they so choose. Due to this flexibility, users may develop a profile that is unrealistically positive and unreliable (Toma, 2013; Wilson et al., 2012). Although this process may be beneficial to the user (Gonzales & Hancock, 2011), other users are exposed to an unrealistic representation of members of their social group, which, considering SCT, can be harmful for many aspects of well-being (i.e., self-esteem, life satisfaction, etc.) (Caers et al., 2013; Festinger, 1954; Gibbons & Buunk, 1999; Gonzales & Hancock, 2011; Wilson et al., 2012).

Self-efficacy and self-esteem were also common topics of investigation (Błachnio et al., 2013; Gonzales & Hancock, 2011; Toma, 2013; Wilson et al., 2012). Self-efficacy is described as ones self-concept with respect to competence. Self-esteem refers to a person's self-regard; how accepting one is of their self-image or identity (Gonzales & Hancock, 2011; Toma, 2013). In addition to personality traits, self-efficacy and self-esteem influenced motives for Facebook use; they helped increase meaningful behaviour on Facebook (Błachnio et al., 2013; Gonzales & Hancock, 2011).

Research has also directly examined the effect of Facebook use on users' well-being (Forest & Wood, 2012; Gonzales & Hancock, 2011; Toma, 2013). Gonzales and Hancock (2011) and Toma (2013) demonstrated that, contrary to previous research, participants who updated their own profile experienced higher self-esteem. In contrast, other findings have suggested that high Facebook use is related to lower self-esteem in Facebook users (Tazghini & Siedlecki, 2013). Forest and Wood (2012) found that although there can be positive impacts on well-being for Facebook users, people may develop low self-esteem because of the anxiety produced by self-disclosure on Facebook. Additional research on how Facebook use can impact users' well-

being should be further investigated with respect to possible positive and negative outcomes and different Facebook motives and uses (Tazghini & Siedlecki, 2013; Toma, 2013).

The current study explored the effects of Facebook use on well-being and happiness. The relationship between Facebook use and personality traits, self-esteem, happiness, and motives for Facebook use need to be investigated (Caers et al., 2013; Gonzales & Hancock, 2011; Wilson et al., 2012). Facebook research and literature reviews, Błachnio et al. (2013), Caers et al. (2013), and Wilson et al. (2012), have revealed that prior research has not explored whether there are different effects for different types of Facebook use with respect to positive and negative impacts of Facebook on well-being and self-esteem. That is, no previous research has investigated whether there is an interaction between type of Facebook use (i.e. profile viewing) and well-being. For example, in some studies people spent time updating their own profiles whereas in others they spent more time looking at the profiles of other people (Gonzales & Hancock, 2011; Toma, 2013). Many people present a rather idealized version of themselves and their lives through their profiles (Gonzales & Hancock, 2011; Wilson et al., 2012). Idealized profiles allow for high social comparison opportunities; therefore, in the present study, the effects of Facebook use are predicted to differ according to whether people concentrated on their own self-presented profiles or at those of other people. In the current study, participants were assigned to either spend time (i.e. 10 minutes) on their own profile, or look at other people's profiles.

It was hypothesized that participants who spent time viewing and updating their own profiles would report higher life satisfaction and happiness than participants who spent time viewing other's profiles. It was possible, however, that spending a mere 10 minutes on Facebook, whether participants looked at their own profile or another person's profile, might not have any impact on reported well-being. Therefore, in addition to this manipulation, participants

were asked to complete a questionnaire about their Facebook use; how much time they spent on it overall, and how much time they spent on various activities related to Facebook (e.g. viewing their own profile, other's profiles, picture sharing, etc.). This information could be used to assess whether happiness and life satisfaction related to self-reported Facebook activities. Additionally, personality variables were examined to see if they had an influence on reported Facebook use. Participants completed a self-esteem scale and a personality inventory, to assess whether there were any correlations between self-reported Facebook use and self-esteem, or personality variables.

Method

Participants

The present study used a sample size of 56 female students enrolled in Psychology 1000 at Brescia University College. The average age was 19.98 years old and the range was 18-49 years old. There were 19 participants in both the own-profile viewing and other-profile viewing conditions and 18 participants in the non-SES (or control) condition.

Materials

Participants completed a total of six questionnaires: the Big Five Inventory (BFI), a short-version of the OCEAN Personality Assessment Scale (John & Srivastava, 1999); the Rosenberg Self-esteem Scale (Rosenberg, 1965); the Narcissistic Personality Inventory (NPI-16), a Narcissism Scale (Ames, Rose, & Anderson, 2006); a Facebook Use Questionnaire developed for this study (Appendix A); a Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985a; Diener, Inglehart, & Tray, 2013); and the Subjective Happiness Scale (SHS) (Lyubomirsky & Lepper, 1999). Also, participants used a computer for a 10-minute task for their respective condition: own-profile view, other-profile view, and non-SES (or control).

Procedure

The procedure began with the letter of information; it was given to the participant and then the informed consent form was signed after all questions had been answered. Next, participants completed the BFI, the Rosenberg Self-esteem Scale, the NPI-16, and the Facebook Use Questionnaire (Appendix A). Next, participants were randomly assigned to one of the following three conditions: the Facebook own-profile viewing condition, the Facebook other-profile viewing condition, or the control group (non-SES internet viewing). Then, participants were instructed as to their tasks (Appendix B) and spent 10 minutes on the computer performing the task corresponding to their condition. Once finished, participants completed a Satisfaction with Life Scale and the SHS. After the questionnaires were finished, participants were given a debriefing form. The study ended after all questions were answered.

<div align="center">**Results**</div>

Two oneway between-groups Anova tested the main hypothesis that participants who viewed other people's Facebook profiles would feel less happy and less satisfied with life than participants who viewed their own profiles, or viewed a neutral stimulus. The hypothesis was not supported. Satisfaction with life scores did not significantly differ between the own-profile viewing condition ($M = 23.37$, $SD = 5.79$), the other-profile viewing condition ($M = 26.11$, $SD = 6.38$), or the control condition ($M = 23.21$, $SD = 5.60$), $F(2, 54) = 1.43$, $p = .25$. Similarly, a oneway between-groups Anova showed that Happiness scores did not significantly differ between the own-profile viewing condition ($M = 19.68$, $SD = 4.06$), the other-profile viewing condition ($M = 21.53$, $SD = 4.06$), or the control condition ($M = 18.58$, $SD = 3.78$), $F(2, 54) = 2.70$, $p = .08$. *Figure 1* illustrates the means for satisfaction with life and happiness between the conditions.

Figure 1. Mean life satisfaction and happiness scores across the three experimental conditions. There was no significant effect of type of Facebook profile viewing on self-reports of satisfaction with life and happiness. Bars represent the mean self-reported score for either satisfaction with life or happiness and error bars represent the standard deviation.

Additionally, participants were asked to provide self-report information regarding their typical social media use, in the event that the experimental manipulation was insufficiently impactful to produce effects on satisfaction with life or happiness in participants. This data was coded according to their responses regarding their most frequent types of social media use (their Facebook use ranking). If their usage was predominantly focused on their own Facebook page, they were coded as "1"; if their Facebook usage was predominantly focused on other people's Facebook, they were coded as "2"; and if their social media use was a mixture of both, or involved other types of social media, they were coded as "3". These data were also analyzed using two between-groups oneway Anovas. There were no significant differences between groups for social media use for satisfaction of life scores, $F(2, 42) = 0.11$, $p = .90$. Similarly, there was no significant findings related to social media use and happiness, $F(2, 42) = 0.17$, $p = .84$. Unfortunately, the majority of participants were coded as "3" in this analysis. *Figure 2* illustrates the means for satisfaction with life and happiness with respect to social media use.

The present study also explored the potential relationships between Facebook use and the big five personality traits (using the BFI) and narcissism (using the NPI-16, of which one item was omitted because it was a duplicate of another item). With respect to the Facebook Use questionnaire, there was a significant positive correlation between number of friends seen per month (not specifying if in person or not) and Facebook use per week, $r(55) = .37$, $p = .005$; Facebook use per day, $r(55) = .30$, $p = .03$; and number of weekly social outings, $r(55) = .30$, $p = .03$. Agreeableness showed a significant positive correlation with Facebook use per week, $r(56) = .31$, $p = .02$. Conscientiousness showed a significant positive correlation with number of friends seen per month, $r(56) = .28$, $p = .04$. Narcissism had a significant negative correlation

Figure 2. Life satisfaction and happiness scores across three different facebook focus types. There was no significance between media use on self-reports of satisfaction with life and happiness. Each bar represents the mean self-reported score for either satisfaction with life or happiness and error bars represent the standard deviation.

with Facebook use ranking, $r(44) = -.40$, $p = .009$. It should be noted that sample sizes occasionally differed because some participants did not complete every item.

Discussion

In the present study it was hypothesized that participants in the own-profile viewing condition would report higher life satisfaction and happiness scores than participants in the other-profile viewing condition or control condition. However, this hypothesis was not supported. Social media use was not significantly related to life satisfaction and happiness scores. It may have been the case that a 10-minute period spent viewing Facebook profiles was simply not enough time to influence participants' feelings of well-being and happiness. To address this potential issue, an additional self- report questionnaire designed to ascertain the frequency and type of social media use of participants was included in the study. However, there were no significant findings with participants' self-reported Facebook use and measure of well-being.

Additionally, the study looked at participants' personality variables to assess whether personality had an effect on Facebook use. This aspect of the study was exploratory—little research has examined the Big Five and social media use. Some minor findings were found regarding both reported Facebook use and personality traits. There was a significant relationship between number of friends seen per month and Facebook use per week, per day, and number of social outings. That is, people who reported using Facebook more often also reported seeing their friends more often. With respect to personality traits, people who scored higher in agreeableness reported using Facebook more often per week. Those who scored higher in conscientiousness reported seeing more friends per month. Lastly, those who scored higher in narcissism reported using Facebook to view their own profile more often than those who were low in narcissism.

Unfortunately, the present study has not provided a clearer picture of Facebook use's positive or negative impact on well-being. The current literature on Facebook use and well-being remains highly contradictory. The present study has shown that Facebook's effects on well-being is a complex social issue. Personality traits, aside from narcissism, do not seem to have any specific impact on type of Facebook use. The present study; however, did reveal that the relationship between Facebook use and well-being is more complex than previously described.

The present study was limited by the experimental manipulation. As previously mentioned, it is quite likely that a 10-minute viewing of either ones own, or other people's Facebook profiles may not be enough to instill emotions such as happiness in Facebook users. Future research should include increased exposure to Facebook to discover whether it does indeed have an impact on well-being.

Also, participants in the present study reported some possible confounding variables. Some participants in the own-profile viewing condition reported becoming uninterested or "bored" during their 10-minute computer task. This lack of interest may have impacted their motivation to view and explore their own profile: providing negative or neutral emotions rather than the hypothesized positive emotions. Additionally, some participants in the other-profile viewing condition reported viewing a close friend or relative's profile during their computer task. These participants noted that because of their relationship to these Facebook users, they were viewing many posts and pictures that included the participant themselves. Therefore, these participants may have experienced positive emotions (i.e. viewing themselves with friends and family) rather than the hypothesized negative emotions (i.e. viewing others in an unrealistic positive light).

Although this study also used a questionnaire to assess participants' self-reported Facebook use, the data for this measure were not very helpful. Participants were asked to rank order their typical Facebook use (question 4 in Appendix A), but the majority of participant rankings could not be clearly differentiated. For example, if a participant ranked updating their own profiles as the number one activity they engaged in, and ranked looking at other people's profiles as number two, they were classified as "other", because their Facebook use was not clearly leaning in one direction or the other. There were so few participants who were clearly categorized as either spending time on their own profile or that of other people, that the analyses had no power.

Another limitation of the study was the fact that it had only female participants of a rather restricted age range. Perhaps older individuals, or males may respond differently to social media, particularly those involving social comparisons. Additionally, there were fewer than 20 participants in each experimental group.

Future research on Facebook use and its impact on well-being should strive to resolve the contradictions that different research studies have found regarding the positive or negative effects of social media. For experimental studies, increased exposure time to Facebook could be utilized to provide a stronger impact of Facebook use in future research. Or, alternatively, participants could be asked to record all of the internet use that they engage in on an ongoing basis for an extended period of time. This self-report data would be much more reliable than the measure used in the current research and could be used for correlational research.

Although the present study has not clarified the impacts of Facebook use on well-being, Facebook remains one of the most popular SNS (Błachnio et al., 2013; Caers et al., 2013; Kramer et al., 2014; Wilson, Gosling & Graham, 2012). Therefore, it is important for future

research to investigate Facebook use's impacts on well-being. Until then, it is still an open

question as to whether social media is a benefit or a detriment to people's well-being.

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Appendix A

Questionnaire 4

Gender (circle one):   M   F   other: _____   Age: _____

The following questionnaire will ask you about your Facebook use; please choose the answer that mostly reflects your Facebook use. Consider you Facebook use for all your devices (e.g. computer, smart phone, etc.) Please ask questions if needed.

1. On average, I use Facebook _____ per week.
    a. 0 days
    b. 1–2 days
    c. 3-5 days
    d. 6-7 days

2. On average, I use Facebook _____ per day.
    a. 0 times
    b. 1–3 times
    c. 3–5 times
    d. 6+ times

3. Please rank order these activities according to how much time you spend (if any) on each of them. Please assign a 1 to the activity you spend the most time on, a 2 to the activity you spend the second most time on, and so on, until you have ranked all those activities that you spend time on. You do not need to rank activities that you do not engage in.

    _____Viewing my profile   _____ Catching up with friends
    _____Viewing my friend's profiles   _____ Talking to close friends
    _____Viewing other's profiles   _____ Viewing my newsfeed
    _____Updating my profile   _____ Other (please specify): _____
    _____Meeting new people

4. I approximately have the following number of friends you have on Facebook:
    a. 0-100 Facebook friends
    b. 101-200 Facebook friends
    c. 201-300 Facebook friends
    d. 300+ Facebook friends

5. On average, I see ___ friends every month.
    a. 0-4 friends
    b. 5-8 friends
    c. 9-12 friends
    d. 13+ friends

6. On average, I attend _____ social outings every week.
    a. 0 social outings
    b. 1-2 social outings
    c. 3-4 social outings
    d. 5+ social outings

Condition Instructions (Verbal)

1 - Self-Profile View

Please log–in to your Facebook account and view YOUR profile (i.e. 'about' section, pictures, old posts, etc. - all on your profile). View this webpage and its contents for 10 minutes. Please remember to stay on this webpage ONLY for the entire 10 minutes. Do NOT view any other Facebook profile. Feel free to update your profile if you wish.

If you have any questions, please ask the experimenter.

Thank you.

2 - Other-Profile View

Please log–in to your Facebook account and view OTHER PEOPLE'S profile (i.e. 'about' section, pictures, old posts, etc. - all on a friend's profile). View this webpage and its contents for 10 minutes. Please remember to stay off your OWN profile for the entire 10 minutes. You may view friend's profiles, acquaintance's profiles, stranger's profiles, etc.

If you have any questions, please ask the experimenter.

Thank you.

3 - Control / Non-Social Media Online Viewing

Please go to >>www.uwo.ca<<. View this webpage and its contents for 10 minutes. Please remember to stay on this webpage ONLY for the entire 10 minutes.

Note: you must stay off any social media webpages during the entire 10 minutes.

If you have any questions, please ask the experimenter.

Thank you.