Reflection of Personality through a Facebook Analysis

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The current study deals with the relationship between aspects of Facebook usage and personality in regards to its relation to the Big Five Inventory (BFI). Current research has shown that online personality is an extension of actual personality and therefore Facebook is a massive medium of personality information. Participants were asked to fill out two measures: the Big Five Inventory and a Facebook inventory which measured individual behaviors on Facebook. The results were then organized into a correlational matrix and examined using a bivariate correlation. The study found that neuroticism and extraversion were inversely correlated with each other. Other correlations between Facebook activity and portions of the BFI were found but not as numerous as was neuroticism and extraversion. Future implications of this study and Facebook in general are discussed in the paper.

INTRODUCTION

Despite being the most popular online social networking site, limited research has been done examining the relationships between Facebook and the personalities of its users. The present study exists to find associations between aspects of the five-factor model of personality and individuals' Facebook-related behaviors. Current research indicates that there is a correlation between extraversion and Facebook activity, but has a limited amount of depth. This study attempts to begin filling in the many gaps in the present research regarding Facebook, and hopefully indicates future possibilities for the collection of massive databases of personality information for researchers.

Since 2004 when it was created, Facebook has been used by persons all over the globe, with little limit to demographics or geographic regions. Facebook currently has over 800 million monthly users, with more than half of those users logging on daily. In 2008, approximately 8% of Americans were using Facebook. According to a survey by Webster (2011), 51% of all Americans now have a Facebook page. Among college age users, the group which is currently the most likely candidates for psychological research regarding personality, approximately 79% log onto Facebook between 10 and 60 minutes per day. Facebook has become an enormous resource for information, just waiting to be tapped by researchers of all sorts. However, steps must be taken to learn more about the ever-growing SNS before large-scale global research can be established. The present study exists in order to identify associations between personality categories from the Big Five Inventory (McCrae & John; 1992) and individuals' Facebook-related behaviors in order to predict Facebook behavior and activities using personality traits.

Communication on Facebook is facilitated using one of three methods. Users can post a message on another user's wall (or one of a group that they belong to) which is then observable by anyone who can view the latter user's wall. Facebook users can also directly talk to their friends via an instant messaging system called "Facebook Chat." In the same category is the original messaging system, which allows users to message their friends while they are offline. This method is more private and is only accessible by the two participating individuals. The third and final way that Facebook users can interact with others is by "liking" other people's statuses or "poking" them; which are both unique features of Facebook that allow a form of communication, at the least interaction, between users without the use of language.

Dominick (1999) argued that internet homepages (similar to pages that are created using Facebook) turn individuals that would otherwise be consumers of media (such as new on the television or the radio) into "producers of mass communication content." This brings up the question; are profiles on Facebook projections of the user's actual self or instead the portrayals of their ideal selves. Facebook users have the opportunity to create a somewhat "false life" on their pages, portraying themselves as the person that they wish they could be. However, according to Marcus, Machilek, and Schutz (2006), a personal website is really what Mischel (1977) would define as a weak situation; and is thus capable of expressing a wide variety of personality traits, catering to individuality. This means that when online, people are able to portray such variety that they can be themselves, and are not forced to be what they wish others would perceive them as. If online profiles are reflections of users' personality, then we can judge the similarity in real life characteristics to those portrayed on Facebook.

Back, Stopfer, Vazire, Gaddis, Shmuckle, Egloff, and Gosling (2010) found using the Big Five

Inventory (as well as other measures) in coordination with self-reports and reports from four closely acquainted friends, that personality measures of online characteristics are consistent with measures of real-life characteristics. This study was later expanded upon by Kutjah (2011) who used Facebook to confirm the hypothesis of our online selves being an extension of our real selves. However, there has been debate as to how reliable the correlations are between previous similar studies and Facebook behaviors (Ross, Orr, Sisic, Arsenault, Simmering, & Orr, 2009), but the later studies have continued to support the correlations between personality and Facebook behavior.

The Big Five Inventory has been used on several occasions when it comes to Facebook research. Ryan and Xenos (2011) found that Facebook users tended to be less conscientious and more extraverted than non-users. However, this goes against what one would think. Orr, Sisic, Ross, Simmering, Arsenault, and Orr (2009) found that individuals who were shyer tended to spend significantly more time on Facebook in general. However, Orr et al. also found that the level of shyness had a significant negative correlation to the number of Facebook friends. This would suggest that the number of Facebook friends in general should be predicted by the level of extraversion. This hypothesis was later supported by Gosling, Augustine, Vazire, Holtzman and Gaddis (2011) who found that seeing as extraverts not only seek out social engagement offline, but online as well. This evidence brings back the theory that Facebook personalities are an extension of our own real-life personalities. Ryan and Xenos (2011) also found that the frequency of the use of specific Facebook features can vary as the result of certain characteristics including neuroticism.

For the present study, the Big Five Inventory was chosen because it has been commonly used in Facebook applications (Gosling et al., 2011; Ryan & Xenos, 2011; Ross et al., 2009; Moore & McElroy, 2012) as well as the fact that a study by Thalmeyer, Saucier, and Eigenhuis (2011) found that the Big Five inventory was just as predictive as six-factor models. Thalmeyer et al. also discussed the fact that a brief version (the short version, used in the present study) of the BFI performed surprisingly well and was not at all any less accurate than the long version.

The present study seeks to identify several hypotheses regarding activity on Facebook. If a person is high in extraversion, then they will not only have more friends on Facebook and also log onto Facebook more each day but also they will have more total photographs than individuals low in extraversion. This would show that extraverts accurately portray their actual life tendencies onto their Facebook page. If an individual is high in neuroticism, then he or she will update their status less per week as well as have a higher percentage of formal acquaintances than those who are low in neuroticism. Those who are high in openness will have more updates per week, as they are more prone to expressing how they feel at the time. Individuals high in conscientiousness will have less updates per week and less total photographs, but will log on a greater number of times per day.

METHODS

Participants A convenient sample of 20 male participants was recruited from Introductory Psychology classes. These students were given extra credit in those classes for participation in this study.

Instruments Personality: The participants' placement on the five-factor model was assessed by using the Big Five Inventory (BFI) which measures the Big Five personality dimensions (extraversion, neuroticism, conscientiousness, agreeableness, and openness to experience.) The BFI uses a self-report Likert scale to assess the personality of the participant. An example of a question found on the BFI would include something like: I am someone who is emotionally stable, not easily upset. Examples of some of the questions on this scale are: 'I am someone who is full of energy' measures extraversion and 'I am someone who is depressed, blue' measures neuroticism. The BFI uses a Likert-scale rating system that measures how much the participant agrees or disagrees with a question. The Likert scale measures 1-5 with 1 meaning the participant disagrees strongly and 5 meaning the participant agrees strongly, and 3 being neutral.

Facebook Behaviors Participants' Facebook-related behavior was assessed using a self-report Facebook activity measure. There are 6 total questions, each of which was found to be the most commonly studied questions when looking at Facebook usage. Three examples of these questions are: "How many times do you log onto Facebook per day?", "How many total pictures do you have on your Facebook?", and "What percentage of your friends on Facebook have been formal acquaintances of yours?"

Procedure Participants were greeted and asked to complete two measures, taking the Big Five Inventory first, followed by the Facebook inventory. Six of the most commonly used variables regarding research using Facebook were used during the current study. The number of friends or network connections on the site was the most obvious

variable and was calculated by standard participant observation. The number of photos on the profile was found by the absolute total number of pictures (as opposed to self-posted pictures and pictures added by others, which are both options in the photo album). The number of times logging on to Facebook per day was a self-reported estimate on the average number of times that the participant signs themselves on to use their Facebook each day. The percentage of formal acquaintances is also calculated by participant estimate of the number of friends on their Facebook that the participant has actually met, as opposed to connections that were made solely through the internet and have not been solidified by physical contact. The number of status updates per participant was calculated by having the individual view their last week worth of activity and report the total number of status updates. The amount of time spent on Facebook was calculated by an estimated average of the amount of time spent by the individual on Facebook per session that they log onto. Once the data was collected from the two questionnaires, responses were entered into a data spreadsheet and put through a bivariate correlation.

RESULTS

A correlation matrix was constructed to investigate relationships between the Big Five personality factors and indices of Facebook usage. The results showed that extraversion correlated with several categories of Facebook behaviors (See table 1 in Appendix A). Extraversion showed a strong positive correlation with the number of friends on Facebook $r (18) = + .636$, $p<.01$. Extraversion showed a moderate positive correlation to the number of times logging on per day of $r (18) = + .454$, $p<.05$. as well as with the total number of pictures on the profile of $r (18) = + .592$, $p<.01$. However, extraversion showed a strong negative correlation with the percentage of formal acquaintances of $r (18) = -.668$, $p<.01$

Neuroticism, on the other hand, showed an inverse relationship in comparison to extraversion with four of the behavioral variables. Neuroticism showed a moderate negative correlation with the number of Facebook friends of $r (18) = -.574$, $p<.01$. There was also a moderate negative correlation to the number of times logging onto Facebook per day of $r (18) = -.578$, $p<.01$ as well as a moderate negative correlation to the number of photos on the profile of $r (18) = -.539$, $p<.01$. Neuroticism had an additional correlation, one that was not significantly correlated to extraversion in the number of status updates per week with a moderate negative correlation of $r (18) = -.535$, $p<.05$. However, neuroticism showed a moderate positive correlation to the percentage of formal acquaintances of $r (18) = +.452$, $p<.05$

Additionally, there were various other correlations found between factors on the BFI and behaviors on Facebook. Conscientiousness showed a moderate significant negative correlation to both minutes on Facebook per day (-.552) and to the total number of pictures (-.472). Lastly, there was a significant moderate positive correlation between the degree of openness in an individual and the number of status updates within the last week (.470).

DISCUSSION

The results show that there are two main personality traits from the Big Five that were able to predict Facebook usage were extraversion and neuroticism. As the results suggest, and extraversion shows a moderate to strong correlations with four of the five most commonly assessed categories of Facebook behavior, with neuroticism showing a moderate to strong correlation with five of the six. The frequency of usage per day of extraverts was consistent with the results found by Gosling et al. (2011). Extraverts were more engaged on the site in general. The results for extraversion were also consistent with the results found by Ong, Ang, Ho, Lim, Goh, Lee, and Chua (2011) that showed extraverts had more photographs overall as well as increased social network size (friends).

The results suggest that you can predict that an individual high in extraversion will use Facebook more often, have more photos on their profile and more friends, but to know less of those friends than those who are less extraverted. The results suggest that you can also predict that an individual high in neuroticism will use Facebook less, update their status less, have less photos and friends, but personally know more of their friends than those showing low levels of neuroticism. As for the other three personality characteristics measured by the Big Five Inventory; users high in conscientiousness had less photos and spent less time on Facebook per session, while those high in openness showed an increased number of total status updates per week compared to those low in openness.

These results suggest that certain personality traits can better predict behaviors on Facebook than other personality traits can. Future research would be necessary to better define individual variances in personality regarding use of Facebook. The future of personality research using Facebook has a very high ceiling. There is a nearly infinite amount of possible subjects that could be studied and utilize this massive database of individual information.

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