The Relationship between Personality and Facebook Usage

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Abstract

This study focused on investigating the relationship between personality and Facebook usage. Sample population was current college students. Participants (N=39) were conveniently sampled and taking an online survey through emails and the study sign-up sheet. The 10-item of the Big Five Inventory and the Facebook Intensity Scale were used to assess participant’s personality and record their Facebook usage. Based on previous studies, I hypothesized there would be positive/negative relationships between types of personality and Facebook usage (Asendorpf & Amiel & Sargent, 2004; Landers & Lounsbury, 2014; Ryan &Xens, 2011; Wilpers, 1998; Wehrli, 2008; Wilson et. al., 2009; Seidman, 2013). Unfortunately, the finding only showed there was a positive relationship between conscientiousness and Facebook using time which was inconsistent with my hypothesis (r (39) =+0.355, p<0.05).

The Relationship between Personality and Facebook Usage

With the rapid development of the Internet and the following vigorously popularized social networking services (SNS), people’s lives have been changed and dominated by the information-rich Internet. Since people attach importance to interpersonal relationships, the SNS, as a new way of making friends and contacting friends on the internet, has become popular since it was created. Facebook is the most popular SNS in the world created by Mark Elliot Zuckerberg in 2004. Since then, Facebook has gotten more and more users; it has become one of the mainstream ways to expand and preserve the interpersonal relationships. This is especially true for university students. Over 90% of university students have Facebook accounts (Cheung, Chiu, & Lee, 2010; Pempek et al., 2009). Its speed of development and
influence on people cannot be ignored. According to statistics from Facebook’s company information, by the end of 2014, on average, there were 890 million daily active users. Facebook, used through the internet, is able to make people keep in touch no matter how far away they are from each other. Therefore, Facebook has become a quicker and more convenient way to interact compared to face-to-face communication and people use it to interact with others as well as present themselves by posting picture of the self (Bonds-Raacke & Raacke, 2010).

Even though with the fact that there are millions of users on Facebook every day, the time every user spends on Facebook and the levels of dependency on Facebook can vary. More specifically, the levels of dependency refer to the extent to which people have been emotionally connected to Facebook and the extent to which Facebook has integrated into people’s daily activities. But there is no evidence suggesting that withdrawal from Facebook would result in negative psychological symptoms yet. Therefore, what types of people have been attracted to the SNS like Facebook becomes an intriguing question. People differ dramatically from one another in terms of their personality traits. However, based on factor analysis of personality questionnaires, most words used to describe personality like “Outgoing,” “Curious,” and “disorganized” can be classified within one of five groups. Thus, there are five typical personality traits, which are referred to as the Big Five personality traits, can be used to describe the general public (McCrae & Costa, 1996).

As McCrae and Costa (1996) have suggested, everyone possesses some degree of each of these five traits—openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. In detail, according to Gilbert and Barton (2014) and based on other researchers
(Barrick & Mount, 1991; Costa & McCrae, 1992; Ross et al., 2009), too—people who are high in openness to experience are imaginative, like variety, and are interested in intellectual and artistic pursuits; those who are low in openness to experience are conventional and prefer routine. People who are high in conscientiousness are well-organized and thorough; those who are low in conscientiousness are disorganized, inefficient and careless. People who are high in extraversion are talkative and sociable; those who are low in extraversion are quiet and reserved. People who are high in agreeableness are kind, trusting, and compassionate; those who are low in agreeableness are antagonistic, unkind and unsympathetic. People who are high in neuroticism are emotional and self-conscious; those who are low in neuroticism are unemotional and self-satisfied.

Most previous studies focused on the influence of personality traits on how people use Facebook for various purposes like posting pictures, commenting, and checking in (Landers & Lounsbury, 2004; Michikyan Subrahmanyam, & Dennis, 2014; Ross et al., 2009). However, the current study mainly focused on assessing undergraduates’ levels of dependency on Facebook, time spent on Facebook and the number of Facebook friends. In detail the level of dependency indicates how important Facebook is to students, time spent on Facebook reflects how much students like using Facebook, and the number of friends students have on Facebook shows level of concerns on building interpersonal relationship as well as how much students like using Facebook to keep in touch with friends. In addition, there are large amounts of studies that have focused on studying the influence of personality traits on the use of the SNS (Costa & McCrae, 1992; Hamburger & Ben-Artzi, 2003; Landers & Lounsbury, 2004; Ross et al., 2009; Wilson et al. 2009). However, the relationship between personality traits and Facebook
use is complicated because how each personality trait is associated with different types of social network activities needs to be considered separately.

**Openness to experience**

Regarding openness to experience, Wehrli (2008) has suggested that people who are high in this personality trait tend to explore, to experience, and to keep pace with new social networking technologies. It implies that people who are high in openness to experience are associated with high usage of Facebook. This may be because openness is related to people’s intentions to experience new things that are driven by their curiosities.

Hypothesis (1): Students who are high in openness to experience would show higher dependency, spend more time, and have more friends on Facebook compared to students who are low in openness to experience.

**Conscientiousness**

Regarding conscientiousness, Wehrli (2008) has suggested that there is a negative relationship between the SNS use and conscientiousness. According to Wehrli (2008), people who are high in conscientiousness have fewer online friends than those people who are low in conscientiousness. The same finding was also suggested by Ryan and Xenos (2011), who concluded that conscientiousness is negatively associated with the SNS use. Because of characteristics of conscientiousness, people who are high in this personality tend to be cautious of being online, which in turn, drives them to meet friends offline (Seidman, 2013). Compared to people who are low in conscientiousness, who spend more time on the SNS because they are inefficient and disorganized so that low conscientiousness people spend more time on “off-task” activities like Facebook.

Hypothesis (2): Students who are high in conscientiousness would show lower dependency and spend less time on Facebook with no clear indication of the number of friends compared to students who are low in conscientiousness.

**Extraversion**
Regarding extraversion, Wilson et al. (2009) found that people who are high in extraversion spend more time on the SNS. On account of the characteristics of sociability and talkativeness, extraversion drives people who are high in extraversion to make friends and connect with friends not only offline, but also online.

Hypothesis (3): Students who are high in extraversion would show higher dependency, spend more time, and have more friends on Facebook compared to students who are low in extraversion.

**Agreeableness**

Regarding agreeableness, neither Moore and McElroy (2012) nor Ross et al. (2009) found association between agreeableness and Facebook usage. However, Asendorpf and Wilpers (1998) once indicated that “agreeable individuals have successful friendships” (as cited in Seidman, 2013, p. 403). It can be inferred that agreeable people are satisfied with their interpersonal communication in the real life so that they do not necessarily need to seek friendship in the virtual world. Unlike agreeable individuals, based on personality traits, people who are low in agreeableness possess characteristics like being unkind, antagonistic, and unsympathetic tend to be fond of spending more time online where it requires less agreeable behaviors (Landers & Lounsbury, 2014). Therefore it can be predicted that there is a negative relationship between agreeableness and Facebook usage.

Hypothesis (4): Students who are high in agreeableness would show lower dependency, spend less time, but have less friends on Facebook compared to students who are low in agreeableness.

**Neuroticism**

Regarding neuroticism, there were contradictions among studies. Unlike Amichai-Hamburger et al. (2002), Amiel and Sargent (2004) found people high in neuroticism enjoy their time on the SNS and spend more time on it. While Wilson et al. (2009)
generated a different result and found a negative relationship between levels of the SNS usage and neuroticism. Nevertheless, according to descriptions of neuroticism, it is reasonable to expect the positive correlation between neuroticism and levels of the SNS usage. Because for people who are high in neuroticism, being emotional may cause people to be eager to express their feelings, and being self-conscious may cause people to be eager to find out how other people would think about and judge them. However, Facebook usage may depend on how comfortable neurotic people feel about using Facebook; under higher pressure and more intense judgment, self-consciousness may drive people away from Facebook. For people who are low in neuroticism, their characteristics of being unemotional and self-satisfied make them less likely to seek satisfaction and recognition from the virtual world.

Hypothesis (5): Students who are high in neuroticism would show higher dependency and spend more time on Facebook with no clear indication of the number of friends compared to students who are low in neuroticism.

Hypotheses were generated based on previous studies and my research concerns as listed above. To test these hypotheses, I administered a questionnaire that measured students’ personality traits and their Facebook usage. All participants completed their surveys online.

**Method**

**Participant**

By using convenience sampling—sending as many emails as possible to students who were easy to reach and willing to participate in the study—there were a total of 39 participants engaging in the survey. Participants were college students from Hanover College. Among those participants, 26 were females and 13 were males. There were 69% White, 22% Asian, 2% African American, 2% Hispanic/Latino, 2% Indian, and 2% Spanish. Participants’ ages ranged from 19 to 24. Most participants received extra credits for participation.
Measurement

Personality

In order to investigate participants’ personality traits, a 10-item of the Big Five Inventory (44-item version), called the BFI-10 was used. The BFI-10 scales, created by Rammstedt and John (2006), are composed of two BFI items for each Big Five dimension in a total of ten questions. The BFI-10 has a mean correlation between its Big Five measures and those of the 44-item version of 0.83 which indicate its high convergent validity (Rammstedt & John, 2006). The BFI-10 scales aimed to investigate participants’ Big Five personality—extraversion, agreeableness, conscientiousness, neuroticism, and openness. It asked participants how much they agree about seeing themselves as someone who “is generally trusting”, “tends to be lazy”, “does a thorough job”, etc. This self-report questionnaire was designed on a 5-point Likert scale that ranges from 1 (“Disagree strongly”) to 5 (“Agree strongly”).

Facebook use

In order to know participants’ Facebook usage, the Facebook Intensity Scale (FBI), created by Ellison, Steinfield, and Lampe (2007), was used. This questionnaire composed of eight total close-ended questions which recorded, time they spend on Facebook, how many friends they have on Facebook, and participants’ level of dependency toward Facebook. When asking about how many friends participants have on Facebook, a nine-point ordinal scale was used (e.g. 10 or less, 11–50, 51–100, 101–150, 151–200, 201–250, 251–300, 301–400, more than 400). When asking about time participants spent on Facebook per day in the past week, a nine-point ordinal scale was used (e.g. 1=0-29min, 2=30-59min, 3=60-89min, 4=90-119min, 5=120-149min, 6=150min-179min, 7=180min-219min,
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8=220min-249min, 9=more than 250min). Unlike these two questions, the other six questions were designed to use a 5-point Likert scale that ranges from 1 (“disagree strongly”) to 5 (“agree strongly”). The FBI scale has been shown to be reliable and valid with Cronbach’s alpha=0.83 (Ellison et al., 2007).

Procedure

Convenience sampling was used that sampled anyone who was available and who currently studied at Hanover College by sending out the emails. Also, the study sign-up sheet was attached outside the classroom for students who would like to participant in my study. The student email list was obtained from the student email directory. Students who received email were told that the study was designed to examine the relationship between personality and Facebook usage. All participants were shown the informed consent before taking the survey. There were not any deceptions used and their information was kept confidential and anonymous.

Email included contents of the study information, researcher information, and instructor information. It provided participants a link directing them to the online survey that was created by using Google Forms. The survey composed of two parts—measuring personality traits and Facebook usage—in a total 18 close-ended questions. After they finished answering the survey questions, participants provided information about their gender, age, and ethnicity. Participants generally completed the survey in 10 minutes. After the survey had been completed, participants were shown written debriefing. After the debriefing, the study was ended.

Reference


**Results**

Analyses focused on participants’ scores on 10-item of the Big Five Inventory (the BFI-10) and the Facebook Intensity Scale (FBI). The Cronbach’s alpha reliability of the BFI-10 was calculated separately for five personality categories. In detail, the Cronbach’s alpha reliability of the BFI-10 was 0.88 for extraversion, 0.83 for conscientiousness, 0.89 for neuroticism, 0.85 for openness to experience, and 0.68 for agreeableness. The reliability of the FBI was 0.87 for questions that assess participants’ level of dependency toward Facebook.

High scores on these scales indicated that participants were high in certain personality categories and had a higher intensity of Facebook usage and vice versa.

The main interest of the study involved investigating the relationship between personality and Facebook usage. Broadly speaking, on the one hand, I hypothesized that students who are high in openness to experience, extraversion, and neuroticism would show higher dependency and spend more time on Facebook; participants scoring high on the first two types of personalities are also expected to have more Facebook friends. On another hand, I hypothesized that students who are high in conscientiousness and agreeableness would show lower dependency and spend less time on Facebook; only high scores on agreeableness would predict students to have few friends on Facebook. Therefore, I used Pearson’s product-moment correlation coefficient to detect the relationship between types of personality and Facebook usage (See Table 1).
Table 1

Correlation between Types of Personality and Facebook Usage

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<tbody>
<tr>
<td>FB. Dependency</td>
<td>-0.305*</td>
<td>-0.175</td>
<td>-0.245</td>
<td>-0.043</td>
<td>0.185</td>
</tr>
<tr>
<td>FB. Friend</td>
<td>-0.063</td>
<td>-0.200</td>
<td>-0.285</td>
<td>-0.071</td>
<td>-0.146</td>
</tr>
<tr>
<td>FB. Time</td>
<td>0.209</td>
<td>0.355**</td>
<td>0.084</td>
<td>0.013</td>
<td>0.105</td>
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</tbody>
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Note. *p<0.06; **p<0.05

As Table 1 shows, there were only weak or no correlations between types of personality and Facebook usage. Thus, most of my hypotheses were not supported. Fortunately, there was only one correlation that was statistically significant—the correlation between conscientiousness and Facebook using time (p<0.05). In addition, one other correlation had close to significant p-value, p<0.06, that is the correlation between neuroticism and the level of dependency on Facebook. Based on observations of Table 1, two correlations were carefully analyzed (See Figure 1 & 2).

Correlation between Conscientiousness and Facebook Using Time

Figure 1. Relationship between conscientiousness and Facebook using time based on scores on the BFI-10 and FBI. Pearson’s r=.355.
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As Figure 1 shows, as scores on conscientiousness go up, the time spend on Facebook also increases. This observation means that there was a significantly weak positive correlation between conscientiousness and Facebook using time ($r (39) = +0.355, p<0.05$). In other words, the result showed that students who scored higher on conscientiousness tended to spend more time on Facebook, compared to students who scored lower on conscientiousness. However, the result contradicted with my hypothesis, where I expected there would be a negative correlation between conscientiousness and Facebook using time. Therefore, my hypothesis regarded that the relationship between conscientiousness and Facebook usage was not supported.

**Correlation between Neuroticism and the Level of Dependency on Facebook**

![Figure 2](image.png)

*Figure 2.* Relationship between neuroticism and level of dependency on Facebook based on scores on the BFI-10 and FBI. Pearson’s $r = -0.305$.

According to Figure 2, as scores on neuroticism go up, the level of dependency on Facebook decreases. This means that there was an insignificant negative correlation between neuroticism and the level of dependency on Facebook ($r (39) = -0.305, p<0.06$). In other words, the result showed that students who scored higher on neuroticism tended to develop a lower level of dependency on Facebook compared to students who scored lower on
neuroticism. With the fact that the result opposed my hypothesis and there was no significant correlation between two variables, my hypothesis regarded that the relationship between neuroticism and Facebook usage was not supported.

**Discussion and Limitation**

The current study assessed the relationship between personality and Facebook usage. For five hypotheses, none of them were supported. There were not any correlations between openness to experience/neuroticism/extraversion/agreeableness and Facebook time/dependency/friends. The result only indicated that there was a significantly positive correlation between conscientiousness and time spent on Facebook (\( r (39) =+0.355, p<0.05 \)). Yet, the outcome that students who were high in conscientiousness spent more time using Facebook than students who were low in conscientiousness was inconsistent with my hypothesis.

Speaking of the result, it may be reasonable that there is a positive correlation between conscientiousness and Facebook usage because the study ignored the fact that Facebook has been changed and updated. The Facebook version that was studied before was not the same one as it is today. Nowadays, Facebook has been carefully redesigned, which may contribute to the reason why people who are high in conscientiousness would spend more time on Facebook as the result suggested. According to the previous study, it is asserted that the internet’s limited rules and unstructured policies keep conscientious people away from the SNS (Pervin et al., 2005). Nevertheless, in recent years, Facebook has designed more features that may attract conscientious people to use Facebook more. For example, firstly, there is a privacy setting on Facebook in which conscientious people are able to enable certain groups of people to view
their page or specific status or pictures. Secondly, the setting of user block serves the similar function that makes the online experience safer and more personal for conscientious people. Thirdly, the report button provides conscientious people a mean to clear away any improper online messages. Moreover, Facebook has been a more reliable channel to keep in touch with friends and to build relationships with people when entering a new stage (e.g. college and workplace). Therefore, it would no longer be a problem that conscientious individuals are cautious online and may choose to meet belonging needs offline (Ryan & Xeno, 2011; Wilson et al., 2010). Facebook offers a safe setting for conscientious people to screen out people to be friend with. For example, there is a friend request and suggested friends functions that provides a channel for conscientious people to know how to develop an online interpersonal network in a more trustworthy way. Moreover, Facebook used to be seen as a time-wasting diversion; whereas nowadays, Facebook is regarded more as a form of correspondence—an activity that responsible people attend to regularly. Thus, even though the result was inconsistent with the previous study, it may be true that people who are conscientious are likely to spend more time on Facebook today.

The results of the present study were inconsistent with previous research that showed that there were associations between types of personality and Facebook usage (Asendorpf & Amiel & Sargent, 2004; Landers & Lounsbury, 2014; Ryan &Xens, 2011; Wilpers, 1998; Wehrli, 2008; Wilson et. al., 2009; Seidman, 2013). However, as a result, I found no relationships between types of personality and Facebook usage. As there were no hypotheses that were supported, some limitations need to be discussed. First of all, sample size of the study was unrepresentative (N=39), so that the result could not be generalized into a large population.
Second, as the internet develops in a fast-paced way, there are variety types of the SNS available online for people to explore such as Twitter, LinkedIn, Pinterest, and Google+. These relatively original SNS may be the reason why there was no correlation between personality and Facebook usage. College students may generally use Facebook less, although 90% of them have Facebook accounts. This is especially true for people who are high in openness to experience that their personality characteristics of exploring the new things may drive them to use other SNS rather than stick to Facebook. Third, there might be a flaw in the scale that I used to assess participants’ personality. The Cronbach’s Alpha only scored .68 for agreeableness, which had much lower reliability compared to other types of personality items. This low reliability of agreeableness may be contributed to the questions selected on the BFI-10. The BFI-10 is designed to use two questions to detect one type of personality; yet, the questions that were trying to detect agreeableness were misleading. “I see myself as someone who is generally trusting,” and “I see myself as someone who tends to find fault with others,” does not mean the same thing to participants when the latter question is in reverse. Participants who see themselves as a trusting person would not necessarily would also trust and agree with other people.

Last but not the least, Facebook is banned in China, which may have affected the results of the study. There was a modest proportion of participants in the study that were Asian (22%), and because I invited people to participate in the survey, I know that most of the Asian participants were from China. As the study was designed particularly to study Facebook, Chinese participants would be considered as a special group in the study. It is because Facebook was banned in China shortly after it was published; Facebook may have different
meanings to Chinese participants compared to other participants who came from the countries that granted more Internet freedom. When Chinese students come to the U.S., they immediately have access to Facebook; there are many possible ways they would react to Facebook. One would be that they are curious about Facebook so that they spend more time using it and have higher Facebook usage. Another possibility would be that they have already had a favorite Chinese SNS, which they would rather use because it allows them to keep in touch with family and friends across countries and time. As they have already built a stable interpersonal network in those SNS, they may be not comfortable with changing their ways to connect with people, especially faced with the problem that Facebook is not available in China. Thus, for this possible reason, Chinese participants would have lower Facebook usage.

Even though none of my hypotheses were supported, this study still yielded some valuable information. For one thing, there may be a relationship between conscientiousness and Facebook usage as the network environment has become safer and more dependable. Accordingly, more follow-up studies are needed in terms of investigating the relationship between conscientiousness and Facebook usage. For another thing, it would be interesting to study Chinese international students’ Facebook usage, which may be associated with the likelihood of westernization of Chinese international students. In sum, by investigating the relationship between personality and Facebook usage, none of my hypotheses were supported. Although one result indicated there was only a weak positive correlation between high in conscientiousness and time spent on Facebook, the result was inconsistent with my original hypotheses and most of other correlations that I hypothesized were not detected.
Reference


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