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Facebook Usage in Relation to Personality and Academic Performance

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Abstract

This study examined the relationship between Facebook usage and academic performance and personality. Sixty-one college students (17 males and 44 females, averaging 19 years old), completed a Facebook survey (including three 7-point Likert scales, measuring times participants logged onto and spent on Facebook and frequent Facebook activities), an academic questionnaire, and the NEO Personality Inventory, measuring five personality traits: neuroticism, extroversion, openness to experience, agreeableness, and conscientiousness. Results indicated positive correlations between times logged onto and spent on Facebook and neuroticism ($r_s = .320, .298, p < .05$) and extroversion ($r_s = .298, .280, p < .05$). Negative academic behaviors positively correlated with time spent on Facebook ($r_s = .60, .32, .26, \text{ and } .43, p < .05$). These findings support the hypotheses that increased Facebook usage correlates positively with poor academic behaviors, neuroticism, and extroversion.

Facebook Usage in Relation to Personality and Academic Performance

Without a doubt, the Facebook generation is on the board. First created in February 2004, Facebook has become a growing phenomenon now appealing to 150 million active users around the world. Initially intended for the college population, Facebook has been extended to high schools and professional work sites. We considered Facebook's growing popularity the decisive factor in compelling us to study certain aspects of this on-line community. We wanted to stress the topics of personality and school-related behaviors in comparison to Facebook usage.

In an intensive study conducted by Pavica Sheldon, "The Relationship Between Unwillingness-to-Communicate and Students' Facebook Use" (2008), multiple theories were tested in an attempt to discover the motives of Facebook use. It also tested particular differences in the audience to whom Facebook appeals. The study supported the idea that extroverts tend to reveal more online by describing themselves in greater detail and posting more explicitly on other's walls. It has also been found that Facebook interacts with psychological well being and may have a positive influence on those experiencing low self-esteem (Ellison, 2007). In additional studies, it has been found that users communicate with friends they already know more than initiating new friendships online (Lampe, 2006). Aspects such as self-esteem, self presentation, and personality qualities have been studied in relation to Facebook usage (Ellison, 2007).

Our hypothesis was that there would be a significant difference in personality and academic behaviors between those who use Facebook a lot and those who use it to a lesser degree. We predicted that those who use Facebook more often will demonstrate lower academic performance and score higher on Neuroticism and Extroversion measured by the NEO inventory. We were intrigued to explore which personality types were more likely to use Facebook and how they perform in school-related activities. This is considered an important study because it

exposes benefits and disadvantages of Facebook usage. For instance, we were interested to discover whether people who log onto Facebook more often will be less responsible in class. In addition, we were interested to see if extroverts spend more time on Facebook than other personality types, and if this would relate to their academic performance patterns.

Although many studies have been performed focusing on different aspects of Facebook, we were able to explore possible relationships between individuals with different personalities as well as school-related behaviors in the present study; something that has never being studied before.

Method

Participants

Three questionnaires were completed by 61 undergraduate students from Covenant College. Of those who participated in our research study, 27.89% (n=17) were men and 72.13% (n=44) were women. The average age of participants involved in the study was 19 ($M=19.46$, $SD=1.32$). Ethnically there were 53 Caucasians, five African Americans, two Asians, and one Hispanic. Students varied in year of schooling as well as in their major. Volunteers were given extra credit in their general and developmental psychology classes for their participation and were treated in accordance with the “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association, 1992).

Apparatus

For this research study, subjects were asked to complete three questionnaires. The first questionnaire was composed of general information and a variety of academic questions. The general information collected included one’s sex, race, age, major, year of college, marital status, and his/her self-reported GPA. On the academic questionnaire, subjects rated themselves on a one to five point Likert scale, from strongly disagree to strongly agree. This measured academic

performance, study skills, and attitudes toward school. The Facebook questionnaire consisted of three seven point Likert scales. The first scale revealed how many times on average the subject logs onto Facebook each day, from zero to seven+ times. Next the average total time spent on Facebook each day was measured, from zero to 1½ hours. Finally, the frequency with which the participant engaged in various Facebook activities such as inbox, wall posting, looking at pictures, etc. was rated, from not at all to always. The NEO personality inventory (NEO PI-R) consists of 240 questions and measures personality traits (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) based on the five-factor model. It also includes three validity seats. The NEO inventory is both reliable and valid. The internal consistency coefficients range from .86-.96 for domain scales and from .51-.83 for facet scales (Costa & McRae, 2005).

Procedure

Testing occurred in one session, and the study was administered on two consecutive days. To begin the study, an informed consent form describing the study, potential costs and benefits, and the subject's ethical rights was read and signed by the participants. This experiment was voluntary and the subjects received psychology credit for taking part in this study. The questionnaires were administered in a packet consisting of the academic questionnaire, the Facebook questionnaire, and the NEO personality inventory.

A six-step instruction sheet was given to the participants that described the order the questionnaires were to be completed in. These directions also helped to minimize observer bias. Subjects were to first read and sign the informed consent form, then fill out the academic questionnaire, the Facebook questionnaire, and the NEO personality questionnaire. When finished, they were to paperclip the questionnaires in the order they were administered and put the packet facedown in the indicated box.

Results

An alpha level of .01 or .05 was used for all significance tests and the Pearson product-moment correlation coefficients between all variable pairings were calculated. Our findings were analyzed based on self-reported data. All data were analyzed using MiniTab. A table was created summarizing the descriptive statistics (See Table 1).

The first hypothesis, which predicted that those who use Facebook more often have lower academic performance than those who use Facebook to a lesser extent, was supported by the correlational analysis. Table 2 illustrates a negative correlation between time spent on Facebook and student's self-reported GPA ($r[59] = -.30, p < .05$). Table 2 shows that more time spent on Facebook is related to negative academic behaviors. For example, there was a positive correlation between times logged onto Facebook and studying the day before a test rather than studying over an extended period of time ($r[59] = .32, p < .05$). Another statistically significant finding was that an increased amount of time spent on Facebook correlated with a higher level of distraction when bringing a laptop to class ($r[59] = .43, p < .01$). In addition, there was a positive correlation of spending more time on Facebook and texting in class ($r[59] = .60, p < .01$). This is further supported by the data in which GPAs were negatively correlated with texting in class ($r[59] = -0.44, p < .01$).

The second hypothesis, predicting that those who use Facebook more often will score higher on neuroticism and extroversion, was also supported by our statistical findings. Table 3 shows the relationship between Facebook usage and personality. Higher scores on Neuroticism as measured by the NEO inventory positively correlated with time spent on Facebook ($r[59] = .33, p < .05$) and times logged onto Facebook ($r[59] = .32, p < .05$). Breaking Neuroticism down into its five facets, we found that an increase in amount of times logged onto Facebook positively correlated with the facet of Anxiety (n1) ($r[59] = .45, p < 0.01$). Similarly, there was a positive

correlation between increased time spent on Facebook per day and anxiety (n1) ($r[59]=.37$, $p<.01$) as well as anger/hostility (n2) ($r[59]=.29$, $p<.05$). Lastly for neuroticism, the facet of impulsivity (n5) was positively correlated with increased time spent on Facebook ($r[59]=.30$, $p<.05$). It was also found that there was a positive correlation between extroversion in general and more times logged onto Facebook ($r[59]=.30$, $p<.05$) and time spent on Facebook ($r[59]=.28$, $p<.05$). We also found positive correlations between the subcategories of extroversion and Facebook usage. These included gregariousness (e2) defined by having a dislike of being alone (Webster, 2008) and excitement seeking (e5). Those who log onto Facebook more ($r[59]=.34$, $p<.01$) and spend more time on it ($r[59]=.30$, $p<.05$) tend to be more gregarious (e2). Finally, it was found that those who spend more time on Facebook scored higher on excitement seeking (e5) ($r[59]=.31$, $p<.05$).

Discussion

As we hypothesized, our study supported the idea that those who use Facebook more often demonstrated lower academic performance and scored higher on neuroticism and extroversion. Other findings were also discovered such as relationships between academics and personality. Academic habits and behaviors were studied in relation to Facebook usage. It was found that negative academic behaviors were highly correlated with Facebook usage. Our results also confirmed that personality traits such as Neuroticism and Extraversion correlated with times logged onto and spent on Facebook. Since Facebook is considered to be the second largest social network on the Internet and continues to grow as time progresses, it was important for us to study which types of individuals are more prompted to use Facebook and how Facebook affects one's academics.

Generally, those who logged onto Facebook more often spent more time on Facebook. They were also more likely to possess negative academic behaviors such as texting in class.

These students were more likely to study the day before a test and get distracted when bringing a laptop to class. In addition, we found that individuals who spent longer periods of time on Facebook reported lower GPA scores in contrast to those who spent less time on this website. This raises the question of whether Facebook is helpful or harmful to the student community.

Our data also supported the idea that subjects scoring higher on neuroticism use Facebook more often. Specifically, those possessing higher levels of anxiety, anger/hostility, and impulsivity are more likely to use Facebook. This could be a way to relieve the anger and to soothe anxiety. Nevertheless, time spent on Facebook leads to less time spent on academics. Also, our results revealed a smaller but significant relationship between extroversion and Facebook usage. These findings are consistent with the idea that extraverts benefit from the internet to a higher degree than introverts (Sheldon, 2008). More specifically, individuals who use Facebook to a greater extent were found to score higher on gregariousness and excitement seeking, elements of extroversion. Those who score higher on extraversion would score lower on academic performance because of the fact that they spend more time on Facebook. For instance, excitement seekers who use Facebook consider themselves procrastinators.

Our study did have many limitations. For example, there were many more females than males and we were only able to study a minimal population of undergraduate students ($N=61$) from a small Christian College consisting of about 1,200 students. A larger sample size and variation of ethnic groups should be studied to increase the external validity of this study. Student's self-reported GPAs were exceptionally high in most cases and there was a small standard deviation of GPA averages in our study ($M=3.43$, $SD=.50$). Due to conducting this study in the fall, many of our subjects were freshmen who recorded their high school GPAs. Therefore, there was no standardized basis for self-reported GPAs. Also, by creating a Facebook

and academic questionnaire ourselves as opposed to a standardized test, validity and reliability were questionable.

Further study should be conducted on this subject. It would be interesting to explore the relationship between personality and academics in comparison to the different applications of Facebook since our research suggests strong correlations. It would also be interesting to conduct this same study, yet administer it to high school as well as graduate students. Lastly, an experimental study could be conducted focusing on Facebook dependency by blocking Facebook usage for a limited period of time and examining its effect on academic behaviors and performance.

Overall, we have learned that individuals who are more extraverted and score higher on neuroticism use Facebook to a greater extent. In addition, those who use Facebook more tend to do more poorly in certain aspects of academics and have lower self-reported GPAs.

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Table 1

Means and Standard Deviations of General Information and the NEO Personality Inventory

Variable	Mean	Standard Deviation
Age	19.46	1.32
Year of College	2.10	0.93
GPA	3.43	0.50
N	99.28	23.74
E	117.77	19.53
O	113.56	43.46
A	123.79	40.61
C	112.02	25.82

Note. N = Neuroticism; E = Extroversion; O = Openness to Experience; A = Agreeableness; C = Conscientiousness.

Table 2

Correlations Between Academic Behaviors, Facebook Usage, and GPA

Academic Questions	Facebook Questions	
	Number of times logged onto Facebook	Amount of time spent on Facebook
14. start studying for a test the day before the test	.32*	.18
20. easily distracted when I bring my laptop to class	.28*	.43**
21. text in class	.47**	.60**
GPA	-.12	-.30*

*p<.05, **p<.01

Table 3

Correlations Between Facebook Usage and the NEO Inventory

Variables of the NEO	Facebook Questions	
	Number of times logged onto Facebook	Amount of time spent on Facebook
Neuroticism	.32*	.33*
Anxiety (n1)	.45**	.37**
Anger/Hostility (n2)	.24	.29*
Impulsivity (n5)	.22	.30*
Extroversion	.30*	.28*
Gregariousness (e2)	.34**	.30*
Excitement-Seeking (e5)	.21	.31*

Note. n1 = first facet of Neuroticism; n2 = second facet of Neuroticism; n5 = fifth facet of Neuroticism; e2 = second facet of Extroversion; e5 = fifth facet of Extroversion.

* $p < .05$, ** $p < .01$