

Personality and Sex as Correlates of Activities Engaged in Facebook among Undergraduates

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ABSTRACT

This study examined personality and sex as correlates of activities engaged in Facebook among undergraduates. 258 participants (135 males and 123 females) formed the sample size for the study. The ages of the participants ranged from 18 to 46 years with a mean age of 23.14 years and standard deviation of 3.98 years. Random sampling technique was used for selection of participants. A structured questionnaire was used for collection of data. Section A of the questionnaire contained demographic information of the participants while section B and C comprised of the Ten Item Personality Index (TPI) by Gosling et al. (2003) and an adaptation of Facebook Questionnaire by Ross et al. (2009) respectively. Logistic regression and Pearson correlation were used to test hypothesis. Personality and sex have no significant influence on the amount of time spent on Facebook. Personality and sex had no influence on the amount of time spent on Facebook. On the other hand, the study showed a significant relationship between personality and sex and posting of pictures on Facebook. The study has implications in the use of Facebook for academic and advertising purposes.

Keywords: *Big 5 Personality Trait, Sex, Facebook Activities, Undergraduates*

In recent years, use of the internet as a means of interpersonal communication has become common. The advent of social network sites (SNS) is rapidly changing human interaction as millions of people worldwide now interact for social and business reasons on SNS through such networks as Facebook, Twitter, LinkedIn, Pinterest, Instagram, Flickr and ClassMates. In 2010, global internet users spent more than one fifth of online time on social network sites or blogs (Bilton, 2010). Facebook is a popular social networking site. According to eBizMBA (2014), Facebook recorded a monthly visitor of 900 million in October, 2014. A report by Facebook (2014) had it that its website had over 1.3 billion active users as of June, 2014.

Personality can be described by the five-factor model (Big 5; Benet-Martinez & John, 1998; John et al., 1991, 2008). According to the Big 5 model, personality consists of five main traits: extraversion, agreeableness, openness to new experience, conscientiousness, and neuroticism (Costa & McCrae, 1992). Sex system includes processes that both define males and females as different in socially significant ways and justify inequality on the basis of that difference (Ridgeway & Smith-lovin, 1999).

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While research indicates that there is no gender difference in overall amount of internet use (Fallows, 2005), there are gender differences in motivations for internet use and utilization of time spent online. Women are more likely to use the internet for social interaction while men are more likely to spend their time online engaging in more task-focused activities (e.g., reading the news, getting financial information) and are more likely to engage in behaviour consistent with their gender role norm that promotes achievement-orientation (Lucas & Sherry, 2004; Weiser, 2000, 2001; Williams, Consalvo, Caplan, & Yee, 2009). There is relatively a paucity of psychological research examining questions such as: What specific behaviours do individuals engage in while using this site? And what psychological processes underlie these behaviours? (Muscanell & Guadagno, 2012). There has been contradicting results about the influence of sex and personality on Facebook use. While some say there is an influence (Joison, 2008; Amichai-Hamburger & Vinistzky, 2010), others say there is no influence (Ross et al., 2009; Capua, 2012).

Research Objective

This study examined whether the five-factor model of personality (Big 5; McCare & Costa, 1997) and sex correlates with the activities undergraduates are engaged in Facebook.

Research Hypotheses

The following hypotheses were tested in this study

- There is no significant relationship between personality traits (extraversion, agreeableness, conscientiousness openness to experience and neuroticism) and time spent on Facebook.
- There is no significant relationship between sex and time spent on Facebook.
- There is no relationship between personality (extraversion, agreeableness, conscientiousness openness to experience and neuroticism) and posting of picture on Facebook
- There is no relationship between sex and posting of pictures on Facebook.

METHODOLOGY

Participants

Participants for this study were drawn from the undergraduate students of Nnamdi Azikiwe University (NAU). A total of 258 undergraduates participated in this study. This included 135 males and 123 females.

Research instruments

Ten Item personality Index and Facebook Questionnaire were used for this study. The Ten Item Personality Index (TIPI) is a personality scale developed by Gosling, Rentfrow & Swann (2003). The Ten Item Personality Index is a ten-item measure of the Big Five personality dimensions – 2 items for each of the 5 dimensions. Each item is rated on a 7-point Likert scale that ranges from 1 (disagree strongly) to 7 (agree strongly). Items 1,3,5,7 and 9 are scored directly while items 2,4,6,8 and 10 are scored in reverse. The TIPI measures the Big Five with reasonable validity (Jonason et al., 2011). Two items were selected from the 28-item Facebook Questionnaire developed by Ross et al (2009). The two items used were the item on approximately how many minutes per day users spend on Facebook and what pictures the users post on their profiles. These sections were found to have content validity ratio of 0.8 and inter-rater agreement of 85 percent among 5 experts.

Procedure and Materials

Multistage sampling was used in this study. NAU has three campuses. Nnewi Campus was chosen by simple random sampling. Nnewi Campus has three faculties. Faculties Medicine and Health Sciences were chosen. By simple random sampling, Departments of Medical Rehabilitation and Radiography were selected from The Faculty of Health Sciences. One hundred and twenty-nine participants were from Medicine while 129 participants were from Medical Rehabilitation and Radiography respectively. The researcher approached participants one by one and participants, who after explanation of the study are willing, were given the instruments for the study to fill. The questionnaire for the study consists of the parts: demographic data (including sex), personality and Facebook use. It took approximately 5 minutes to complete the questionnaire.

Design, data collection and Statistics

Data was collected at a particular point in time from the participants using the survey tool (questionnaire). The data was sorted, coded and analysed using SPSS version 21. Logistic regression analysis and Pearson correlation coefficient were calculated as appropriate.

RESULTS

The age range was between 18 and 46 years with a mean of 23.14 years and standard deviation of 3.98 years. Pearson correlation showed that the average daily time spent on Facebook does not correlate with personality score on the TPI. The correlation coefficient and p values are as shown in Table 1.

Table 1: Correlation between personality and average daily time spent on Facebook.

Personality factor	Pearson coefficient	P value
Extraversion	-0.050	0.331
Agreeableness	-0.051	0.327
Conscientiousness	0.039	0.366
Neuroticism	-0.054	0.315
Openness to Experience	0.034	0.382

Logistic regression showed that test of fitness of the amount of time spent on Facebook by male and females do not differ significantly ($\chi^2 = 9.506, df = 5, p 0.09$). The value contributed to Cox and Snell R square 11.2%. However, the *B* value for the regression coefficient is shown in Table below.

Table 2: Logistic regression coefficient table of the relationship between sex and average daily time spent on Facebook.

Average Daily time	Chi square	Df	Standard error	B
≤ 10 minutes	9.506	1	0.913	0.405
10-30 minutes		1	1.044	0.201
31-60 minutes		1	1.041	-0.405
1-2 hours		1	1.029	-0.944
2-3 hours		1	0.000	19.806

df= degree of Freedom.

The logistic regression of the relationship between personality and posting of picture of family on Facebook shows that the test of fitness was significant for neuroticism ($\chi^2 = 25.5, df = 10, p = 0.004$). This value contributed to Cox and Snell R square of 27.4 %. The *B* value for the regression coefficient is shown in Table 3.

Table 3: Regression coefficient table of the relationship between personality and posting of family picture on Facebook.

Personality factor	Chi square	df	Standard error	B
Extraversion	11.9	12	1.000	0.000
Agreeableness	3.7	8	0.476	0.539
Conscientiousness	9.1	10	0.508	0.606
Neuroticism	25.5	10	0.707	-0.693**
Openness to Experience	8.5	10	0.500	0.000

**= significant at $p < 0.01$, df = degree of freedom.

On the other hand, logistic regression of the relationship between personality and posting of picture-of-self showed that the test of fitness was significant for agreeableness ($X^2 = 16.2$, $df = 8$, $p = 0.039$). This chi value contributed to Cox and Snell R square of 18.4%. The B values of the regression coefficient are shown below.

Table 4: Regression coefficient table of the relationship between personality and posting of picture of self on Facebook.

Personality factor	Chi square	df	Standard error	B
Extraversion	8.4	12	1.000	18.884
Agreeableness	16.2	8	1.027	2.890*
Conscientiousness	8.0	10	0.636	1.540
Neuroticism	10.3	10	1.061	2.079
Openness to Experience	12.6	10	1.033	2.708

*= significant at $p < 0.05$, df = degree of freedom.

Furthermore, logistic regression of the relationship between personality and posting of picture of significant other showed that the test of fitness was significant for extraversion ($X^2 = 23.6$, $df = 12$, $p = 0.023$). This chi value contributed to Cox and Snell R square of 25.6%. The B values of the regression coefficient are shown in Table 5.

The logistic regression of the relationship between personality and posting of pictures of friends on Facebook did not show any significant findings as shown in Table 6.

Table 5: Regression coefficient table of the relationship between personality and posting of picture of significant other on Facebook.

Personality factor	Chi square	df	Standard error	B
Extraversion	23.6	12	1.155	1.099*
Agreeableness	8.3	8	0.459	0.105
Conscientiousness	10.4	10	0.486	-0.118
Neuroticism	16.4	10	1.061	-2.079
Openness to Experience	11.9	10	0.500	0.000

*= significant at $p < 0.05$, df = degree of freedom

Table 6: Regression coefficient table of relationship between personality and posting picture of friends on Facebook.

Personality factor	Chi square	Df	R ²	S.E	B
Extraversion	15.9	12	18.1%	1.155	1.099
Agreeableness	8.7	8	10.3%	0.494	0.773
Conscientiousness	8.9	10	10.6%	0.572	1.179
Neuroticism	10.8	10	12.7%	0.671	-0.223
Openness to Experience	6.5	10	7.8%	0.516	0.511

R²= Cox and Snell R square, df = degree of freedom, S.E = standard error.

Finally, logistic regression of the relationship between sex and picture posting on Facebook showed that the test of fitness was significant for posting of pictures of family ($X^2= 6.60$, $df = 1$, $p = 0.010$) and posting of pictures of friends ($X^2 = 8.69$, $df = 1$, $p = 0.003$). These values contributed to Cox and Snell R square of 7.9% and 10.3 % respectively. These are shown in Table 7.

Table 7: Logistic regression coefficient table of relationship between sex and picture posting on Facebook.

	Chi square	Df	R ²	S.E	B
Family	6.60	1	7.9%	0.474	-1.186**
Friends	8.69	1	10.3%	0.541	-1.502**
Myself	0.04	1	1.1%	0.849	0.163
Significant Other	0.96	1	1.2%	0.465	-0.456

**= significant at $p < 0.01$, df = degree of freedom, R²= Cox and Snell R², S.E= standard error.

DISCUSSION

The findings of this study indicated that there is no significant difference in sex and average daily time spent on Facebook; no difference in big five personality score and average daily time spent on Facebook. This is in consonance with the null hypothesis that there will be no relationship between sex and average daily time spent on Facebook; personality and average daily time spent on Facebook. The findings of this study are in consonance with the studies by Fallows (2005) which showed no sex difference in amount of internet use and Halevi et al (2013) which showed no sex difference in Facebook activities. This is in disagreement with the study by Bachrach et al. (2012) which showed that females spend more time on Facebook. The difference between the finding of this study and that of Bachrach et al. might be because they used a larger sample size of 180,000 Facebook users. The finding of no relationship between personality and average daily time spent on Facebook is in agreement with the findings of Ross et al. (2009) which showed very little influence of personality on Facebook use using a sample of 97 participants. On the other hand, Gosling et al. (2011) found a positive relationship between extraversion and frequency of Facebook use. The difference can be explained by the fact that Gosling et al measured Facebook frequency by open-ended numeric responses.

The current study showed no relationship between sex and number of Facebook friends ($p= 0.06$) but significant relationship between extraversion ($p = 0.016$)/ neuroticism ($p = 0.023$)

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and number of Facebook friends. This finding agrees with that by Amichai-Hamburger and Vinitzky (2010) and Quaurciax et al. (2012). Zywicki and Danowski (2008) also found a positive correlation between extraversion and number of Facebook friends. Also, these findings disagree with the null hypothesis that there is no relationship between personality and Facebook usage.

Females have significantly more photo albums ($p = 0.006$) than males and those with a high score in extraversion have significantly less photo albums ($p = 0.01$) while those that score high on agreeableness have significantly more photo albums from the current study. This is contrary to the finding by Muscanell and Guadagno (2012) that individuals high in extraversion were more likely to post photographs on social network sites. This difference can be accounted for by the fact that their participants were psychology students who completed online survey as part a course requirement and they researched both Facebook and MySpace. In addition, females significantly post more pictures of family ($p = 0.01$) and friends ($p = 0.003$) than males. This agrees with the prior finding by Raacke & Bonds-Raacke (2008) that females present a social portrait of themselves that revolves around others and present less personal information.

Furthermore, there were significant positive correlations between neuroticism and posting of pictures of family ($p = 0.004$), extraversion and posting pictures of significant other ($p = 0.023$) in this study. The positive correlation between agreeableness and posting picture of self in this study is comparable to the finding by Ross et al. (2009) that neuroticism is negatively correlated with users of Facebook posting their own photo. The finding of a positive correlation between openness to experience and posting picture of pets agrees with the finding of Halevi et al. (2013) that openness to experience is linked with posting more personal information on Facebook.

The implication of this study is that in using Facebook for educational purposes equal coverage should be expected among males, females and across all ranges of personality domains. On the other hand, in using Facebook for advertising, the influence of sex and various personality domains on activities engaged in Facebook should be taken into consideration to ensure adequate coverage of the target audience. The limitations of this study include the fact that variables measurement is based on self-report and involves some degree of bias, as participants can lie or not fully understand what is asked. Another limitation of the present study was the method with which time spent on Facebook was assessed. Participants were limited to a 6-point Likert scale to report the quantity of time they spent on this site. Had this item been recorded in an open-ended format, it is possible that a stronger, more representative correlation would have been obtained.

CONCLUSION

The result of the study showed that personality and sex have no significant influence on the amount of time spent on Facebook. The first and second hypotheses were confirmed, that personality and sex have no influence on the amount of time spent on Facebook. On the other hand, the third and fourth hypotheses were not confirmed as the result of the study showed a significant relationship between personality and sex and posting of pictures on Facebook.

REFERENCES

- Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in human behavior*, 26(6), 1289-1295.

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- Bachrach, Y., Kosinski, M., Graepel, T., Kohli, P., & Stillwell, D. (2012, June). Personality and patterns of Facebook usage. In *Proceedings of the 4th Annual ACM Web Science Conference* (pp. 24-32). ACM.
- Capua, I. D. (2012). A literature review of research on Facebook use. *The Open Communication Journal*, 6(1).
- Company Info | Facebook Newsroom". Facebook. September 30, 2014. Retrieved October 28, 2014.
- Costa Jr, P. T., & McCrae, R. R. (1992). Neo personality inventory–revised (neo-pi-r) and neo five-factor inventory (neo-ffi) professional manual. *Odessa, FL: Psychological Assessment Resources*.
- eBizMBA(2014). Top 15 most popular social networking sites/ November 2014. Retrieved from <http://www.ebizmba.com/articles/social-networking-websites>.
- Fallows, D., (2005). How Women and Men Use the Internet, Pew Research Center: Internet, Science & Tech. United States of America. Retrieved from <https://policycommons.net/artifacts/628812/how-women-and-men-use-the-internet/1610118/on> 21 Mar 2023 CID: 20.500.12592/kwjsgm.
- Gosling, S. D., Augustine, A. A., Vazire, S., Holtzman, N., & Gaddis, S. (2011). Manifestations of personality in online social networks: Self-reported Facebook-related behaviors and observable profile information. *Cyberpsychology, Behavior, and Social Networking*, 14(9), 483-488.
- Gosling, S. D., Gaddis, S., & Vazire, S. (2007). Personality Impressions Based on Facebook Profiles. *ICWSM*, 7, 1-4.
- Halevi, T., Lewis, J., & Memon, N. (2013). Phishing, personality traits and facebook. *arXiv preprint arXiv:1301.7643*.
- Hamburger, Y. A., & Ben-Artzi, E. (2000). The relationship between extraversion and neuroticism and the different uses of the Internet. *Computers in human behavior*, 16(4), 441-449.
- Hew, K. F. (2011). Students' and teachers' use of Facebook. *Computers in Human Behavior*, 27(2), 662-676.
- In, E. B., Lancry, A., & Louche, C. EAGLY AH (1987): Sex differences in social behavior: A social-role interpretation.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. *Handbook of personality: Theory and research*, 2(1999), 102-138.
- Joinson, A. N. (2008). Looking at, looking up or keeping up with people? Motives and use of Facebook. *Paper presented at the 26th annual SIGCHI conference on Human Factors in Computing Systems*, Florence, Italy.
- Lucas, K., & Sherry, J. L. (2004). Sex differences in video game play: A communication-based explanation. *Communication research*, 31(5), 499-523.
- McCrae, R. R., & Costa Jr, P. T. (1997). Personality trait structure as a human universal. *American psychologist*, 52(5), 509.
- Muscanell, N. L., & Guadagno, R. E. (2012). Make new friends or keep the old: Gender and personality differences in social networking use. *Computers in Human Behavior*, 28(1), 107-112.
- Quercia, D., Lambiotte, R., Stillwell, D., Kosinski, M., & Crowcroft, J. (2012, February). The personality of popular facebook users. In *Proceedings of the ACM 2012 conference on computer supported cooperative work* (pp. 955-964). ACM.
- Ridgeway, C. L. (1997). Interaction and the conservation of gender inequality: Considering employment. *American Sociological Review*, 218-235.

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- Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in human behavior, 25*(2), 578-586.
- Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, Ryan, T., & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in Human Behavior, 27*(5), 1658-1664.
- Weiser, E. B. (2000). Gender differences in Internet use patterns and Internet application preferences: A two-sample comparison. *CyberPsychology and Behavior, 3*(2), 167-178.
- Weiser, E. B. (2001). The functions of Internet use and their social and psychological consequences. *CyberPsychology & behavior, 4*(6), 723-743.
- Williams, D., Consalvo, M., Caplan, S., & Yee, N. (2009). Looking for gender: Gender roles and behaviors among online gamers. *Journal of communication, 59*(4), 700-725.
- Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A review of Facebook research in the social sciences. *Perspectives on psychological science, 7*(3), 203-220.
- Wolfradt, U., & Doll, J. (2001). Motives of adolescents to use the Internet as a function of personality traits, personal and social factors. *Journal of Educational Computing Research, 24*(1), 13-27.
- Zywica, J., & Danowski, J. (2008). The faces of Facebookers: Investigating social enhancement and social compensation hypotheses; predicting Facebook™ and offline popularity from sociability and self-esteem, and mapping the meanings of popularity with semantic networks. *Journal of Computer-Mediated Communication, 14*(1), 1-34.

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Conflict of Interest

The author(s) declared no conflict of interest.

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