

A Study on Personality Traits and Social Media Fatigue-Example of Facebook Users

Ching-Chang Lee, Sam Tung-Hsiang Chou, and Yi-Ru Huang

National Kaohsiung First University of Science & Technology, College of Management, Department of Information Management, Kaohsiung, Taiwan

Email: {cclee, sam, yiru}@nkfust.edu.tw

Abstract—Social networking has become a very popular use of the Internet. Social networking sites allow people to communicate and interact with each other, and as a result, the number of social networking users has seen rapid growth over the last few years. According to surveys, the phenomenon of social media fatigue (SoMeFat) has already appeared among social networking site users in certain areas, and these users' enthusiasm for social media has diminished. This phenomenon indicates that users are getting tired of social functions, content and activities provided by social networking sites, and are consequently reducing their usage or frequency of social networking, or even simply giving up on social networking sites. Personality traits are composed of a series of individual characteristics, openness to other people and things, interest in conversation, and openness to perceptions. This study examined the relationship between personality traits and social media fatigue. The results showed that the Big Five personality traits influence social media fatigue. Social media platforms, therefore, may adjust the contents and functions of their websites through an understanding of social media users' personality traits, and may increase users' time on social media websites via provision of customized services.

Index Terms—social media fatigue, social network service, five-factor model

I. INTRODUCTION

Social networking has become a very popular use of the Internet. Social networking sites allow people to communicate and interact with each other, and as a result, the number of social networking users has seen rapid growth over the last few years. Taking Facebook, the most popular social networking site, as an example, the monthly number of users exceeded one billion in 2013. Social networking sites provide platforms where users can meet and form online communities. Apart from maintaining relationship with friends, users also can employ the function provided by social networking sites to seek friends or make new friends. As a result, social networking sites have become a new social tool.

The business model of social networking sites is to provide free services to users and depend on advertisements as a source of revenue. To facilitate more advertising revenue, social networking sites constantly introduce new social applications and functions, allowing

users to expand their social circle quickly and hoping to attract users to spend more time on the sites. However, according to a survey by research firm Gartner Inc. [1], the phenomenon of social media fatigue (SoMeFat) has already appeared on social networking site users in certain areas, and these users' enthusiasm for social media has diminished. Some users gradually become lurkers, meaning they no longer actively share information with others, and some users have even canceled their social networking site accounts [2]-[4]. This phenomenon indicates that perhaps users are getting tired of the social functions, content or activities provided by social networking sites, and as a consequence, they reduce their usage or frequency of social networking or even simply give up on social networking sites.

In order to understand and measure the phenomenon of social media fatigue, Lee & Hsieh developed a social media fatigue scale to be used as a tool to evaluate the degree of fatigue among social networking service users. The formative factors of the social media fatigue scale consist of emotional exhaustion, depersonalization, lack of personal accomplishment and privacy exposure risk [5]. The social media fatigue scale possesses outstanding reliability, validity, model fit and explanatory power, which makes it a suitable tool for measuring social media fatigue.

Psychologists' research on personality is quite wide ranging. Personality theories include trait theory, psychoanalytic theory, social learning theory, cognitive theory and humanistic theory. Among these, trait theory asserts that the differences between individuals can be explained by several important behavioral tendencies. The chief purpose of much trait theory research is to find concise dimensions that explain a wide range of personality types. Trait theory believes that traits are characterized by stability and persistence, and also exert general and consistent influences on personal behavior. For this reason, trait theory emphasizes that individual differences are derived from differences in personality traits.

Personality traits are composed of a series of individual characteristics, which include openness to other people and things, interest in conversation, and openness to perceptions. All individuals have their own unique personality traits, and have different methods of responding to other people or things, different ways of

expressing themselves, and different thinking patterns. These individual characteristics are called as "personality traits" when they appear persistently in a same individual. Norman [6] derived five personality factors using the factor analysis method, and Goldberg [7] termed them the "Big Five" personality traits, and employed them extensively in prediction of human behavior and attitudes. Costa and McCrae [8] classified personality traits as five major types: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. In the fields of management and psychology, the Big Five personality traits have been applied extensively to the prediction of human behavior and attitudes.

In recent years, the Big Five personality theory has been applied in research on the use of social networking services. For example, studies conducted by Correa et al. [9] and Moore & McElroy [10] found that gender, age and personality traits influenced users' degree of acceptance of social networking services; research by Amichai-Hamburger and Vinitzky [11] revealed that, compared with introverted individuals, extroverts tended to have more friends on Facebook; Wilson *et al.* [12] suggested that extroverted people readily tended to develop addictions to the use of SNS; and Ryan and Xenos [13] analyzed Facebook users and discovered that the majority of users possessed higher extraversion and lower conscientiousness.

This study sought to explore the relationship between personality traits and social media fatigue. This paper has the following framework: the first section is an introduction explaining the study's background, motivation and goals, and also explores relevant literature; the second section describes the research methods, and includes an explanation of the research model, hypotheses and design; the third section contains the research results, and includes reliability analysis, validity analysis, model fit and hypothesis testing results; and the final section provides conclusions and application suggestions.

II. RESEARCH METHODS

A. Research Model

This study seeks to investigate the effect of the Big Five personality traits on social media fatigue. The research model is shown as Fig. 1.

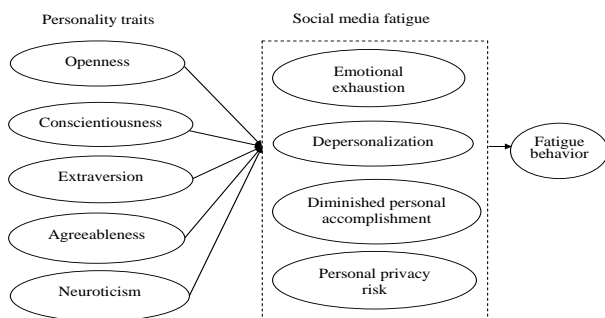


Figure 1. Research model.

B. Research Hypotheses

1) Openness to experience versus social media fatigue

Individuals who are open to experience tend to be creative, imaginative, intrepid and adventurous. Relevant studies have shown that extroverted people tend to leave messages on others' social networking sites [14], [15] and divulge personal information [11], and were less sensitive to privacy exposure risks. This study therefore hypothesizes that openness to experience has a negative correlation with social media fatigue.

Hypothesis 1: Openness to experience has a negative correlation with social media fatigue

2) Conscientiousness versus social media fatigue

Individuals possessing conscientiousness tend to be cautious, prudent, responsible, organized and diligent. Kim *et al.* [15] suggested that conscientiousness has a negative correlation with lack of personal accomplishment, and showed that conscientiousness has a negative correlation with emotional exhaustion and depersonalization. Swider and Zimmerman [16] stated that conscientiousness has a negative correlation with emotional exhaustion, depersonalization and lack of personal accomplishment. Based on the above study results, we hypothesize that a negative relationship exists between conscientiousness and social media fatigue.

Hypothesis 2: Conscientiousness has a negative correlation with social media fatigue

3) Extraversion versus social media fatigue

Extroverted individuals tend to be sociable, communicative, talkative, enthusiastic and active. According to Swider and Zimmerman [16], extraversion has a negative correlation with emotional exhaustion, depersonalization and lack of personal accomplishment. Correa *et al.* [9] found that extroverted people tend to use Facebook to stay in touch with their friends more and leave comments on their friends' web pages. In other words, extroverted people cared less about their personal information being exposed when they used Facebook. For this reason, we hypothesize that extraversion has a negative correlation with social media fatigue.

Hypothesis 3: Extraversion has a negative correlation with social media fatigue

4) Agreeableness versus social media fatigue

Agreeable individuals tend to be polite, amiable, cooperative, easy to get along with, helpful and kind-hearted [7], [17]. According to Swider and Zimmerman [16], agreeableness has a negative correlation with emotional exhaustion, depersonalization and lack of personal accomplishment. Moore and McElroy [10] stated that people who have a higher degree of agreeableness tend to release their personal information and care less about the risks of using Facebook, and their perceived privacy exposure risk was lower. We therefore hypothesize that agreeableness has a negative correlation with social media fatigue.

Hypothesis 4: Agreeableness has a negative correlation with social media fatigue

5) Neuroticism versus social media fatigue

Neurotic individuals tend to be anxious, easily apprehensive, prone to worrying, moody and depressed [8]. Kim *et al.* [15] found that neuroticism has a positive correlation with emotional exhaustion and depersonalization. Swider and Zimmerman [16] suggested that neuroticism has a positive correlation with emotional exhaustion, depersonalization and lack of personal accomplishment. We therefore hypothesize that neuroticism has a positive correlation with social media fatigue

Hypothesis 5: Neuroticism has a positive correlation with social media fatigue

6) Social media fatigue versus fatigue behavior

Social media fatigue refers to the feelings of fatigue, annoyance and boredom in connection with social media, which will result in shorter social media browsing time, reduced usage and decreased enthusiasm when using social media, and promote negative impressions and attitudes toward social media. According to Lee & Hsieh [5] the social media fatigue scale may predict social media fatigue behavior.

Hypothesis 6: People with higher social media fatigue have a higher degree of social media fatigue behavior.

C. Research Design

This study's questionnaire consisted of two parts addressing personality traits and social media fatigue. For personality traits, this study employed the Mini-Maker Scale developed by Saucier [18] as a means of measuring personality traits. As for social media fatigue, this study employed the Social Media Fatigue Scale used by Lee &

Hsieh [5] as a means of measuring social media fatigue. The questionnaire employed a Likert scale for measurement; to ensure the accuracy and understandability of the questions, two information management professors assisted with correction and revision after the completion of the study design.

The subjects of the questionnaire pilot test consisted of Facebook users. A total of 115 subjects took the pilot test, and 106 valid questionnaires were recovered. The questionnaire pilot test employed two indicators as standards [19], [20]:

- Standard deviation: The larger the standard deviation the better; a large standard deviation indicates good discrimination. A value of .70 was used as the standard deviation threshold.
- Factor analysis method: Factor analysis was employed to obtain factor loading, which was used to judge the correlation between individual questions and the corresponding factors. This study employed a factor loading standard of 0.50.

This study revised and deleted some of the items on the basis of the foregoing standards.

III. RESEARCH RESULTS

A. Sample

The study sample was obtained via an Internet survey. The survey lasted from April 18 to June 24, 2013. A total of 315 valid questionnaires were collected after incompletely filled-out questionnaires were discarded.

TABLE I. DEMOGRAPHIC ANALYSIS OF THE SAMPLE

Demographic variables	Category	Number of subjects	Percentage (%)
Gender	Male	158	50.2
	Female	157	49.8
Age	Under 15	3	1
	16-20	16	5.1
	21-25	190	60.3
	26-30	75	23.8
	31-35	21	6.7
	36-40	6	1.9
	Over 40	4	1.3
Education	Junior school	1	3
	High school	6	1.9
	College/ university	170	54
	Post-graduate	138	43.8
How long have you been using Facebook?	Less than 1 year	4	1.3
	1-2 years	93	29.5
	2-3 years	100	31.7
	Over 3 years	118	37.5
What is the average time you spend on Facebook each day?	Less than 15 min.	8	2.5
	15-30 min.	26	8.3
	30 min. to 1 hour	68	21.6
	1-2 hours	92	29.2
	2-3 hours	62	19.7
	Over 3 hours	59	18.7

Table I The research sample consisted of experienced users of the social media website Facebook, and consisted of similar percentages of men and women; young people

under 25 years of age accounted for a large proportion of the sample (60.3%); persons with a university or college education accounted for the largest share of the sample

(54%), followed by persons with postgraduate education (43.8%); and the largest group of subjects used Facebook for 1-2 hours per day (29.2%). In addition, the vast majority of subjects possessed at least three years of Facebook use experience (37.5%).

B. Reliability and Validity Analysis

This study checked whether Cronbach's Alpha was between 0.72 and 0.92, factor loading was 0.7-0.91, average variance extracted (AVE) was 0.54-0.7, composite reliability between 0.83 and 0.92, and the square root of AVE greater than the correlation coefficient of each pair of constructs. These indicators all complied with reliability and validity standards. Because of this, the research scale was judged to possess a high degree of reliability and excellent validity.

C. Overall Model Fit Analysis

Estimation of parameters in this study employed the maximum likelihood (ML) method. It can be seen from Table II that each of the measurement indicators complies with assessment standards, which implies that the research model possesses an excellent model fit.

TABLE II. MEASUREMENT MODEL FIT INDICATORS

Indices	χ^2/df	GFI	AGFI	NFI	CFI	RMSEA
Recommended	<3	>0.90	>0.90	>0.90	>0.95	<0.06
Obtained value	1.769	0.944	0.925	0.933	0.952	0.048

D. Hypotheses Testing

Fig. 2 shows the results of structural equation modeling. All path coefficients met the standard of significance, which implied that the research hypotheses were all confirmed.

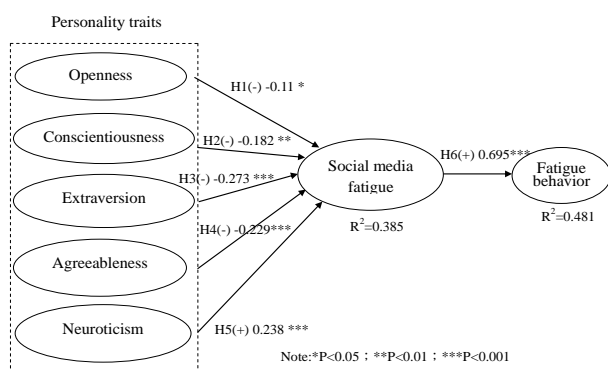


Figure 2. Results of structural equation modeling

IV. CONCLUSIONS

This study sought to explore the relationship between personality traits and social media fatigue, and the results indicated that the Big Five personality traits could explain 38.5% of social media fatigue phenomenon. Among the Big Five personality traits, neuroticism had a positive correlation with social media fatigue, and the other traits had negative correlations with social media fatigue. Extraversion had the biggest effect on social media fatigue, followed by neuroticism, agreeableness, conscientiousness and openness to experience. The Social

Media Fatigue Scale had an explanatory power of 48.1% toward fatigue behavior, which indicated that, the higher degree of social media fatigue the users had, the easier for fatigue behavior to appear.

According to the results of our study, the Big Five personality traits had effects on social media fatigue. In other words, the Big Five personality traits can be used to predict social media fatigue behavior. As a result, social media platform operators should adjust the content and functions of their websites in line with their understanding of social media users' personality traits. In addition, in order to increase users' social media usage, social media platform operators also need to provide customized services to ensure users spend more time on social media sites.

ACKNOWLEDGEMENTS

This study is supported by grant from Ministry of Science and Technology (MOST) of Taiwan under contract number NSC 101-2410-H-327-009-MY2

REFERENCES

- [1] C. Patrick, B. Blau, K. Y. Foong, and C. G. Lee, *User Survey Analysis: Trends in Consumers' Use of Social Media*, Gartner Inc., June, 14, 2011.
- [2] R. Junco, "The relationship between frequency of Facebook use, participation in facebook activities, and student engagement," *Computers and Education*, vol. 58, no. 1, pp. 162-171, 2011.
- [3] C. J. Glynn, M. E. Huge, and L. H. Hoffman, "All the news that's fit to post: A profile of news use on social networking sites," *Computers in Human Behavior*, vol. 28, no. 1, pp.113-119, 2011.
- [4] Y. H. Joo, Y. Kim, and S. J. Yang, "Valuing customers for social network services," *Journal of Business Research*, vol. 64, no. 11, pp. 1239-1244, 2011.
- [5] C. C. Lee and M. C. Hsieh, "Development of a social media fatigue scale," in *Proc. 6th International Colloquium on Business & Management*, Bangkok, Thailand, August 2013.
- [6] W. T. Norman, "Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings," *Journal of Abnormal and Social Psychology*, vol. 66, pp. 574-583, 1963.
- [7] L. R. Goldberg, "The development of markers of the big-five factor structure," *Psychological Assessment*, vol. 4, no. 1, pp. 26-42, 1992.
- [8] P. T. Costa and R. R. McCrae, *The NEO Personality Inventory Manual*, Odessa, FL: Psychological Assessment Resources, 1985.
- [9] T. Correa, A. W. Hinsley, and H. G. Zúñiga, "Who interacts on the Web? The intersection of users' personality and social media use," *Computers in Human Behavior*, vol. 26, no. 2, pp. 247-253, 2010.
- [10] K. Moore and J. C. McElroy, "The influence of personality on facebook usage, wall postings, and regret," *Computers in Human Behavior*, vol. 28, no. 1, pp. 267-274, 2012.
- [11] Y. Amichai-Hamburger and G. Vinitzky, "Social network use and personality," *Computers in Human Behavior*, vol. 26, no. 6, pp. 1289-1295, 2010.
- [12] K. Wilson, S. Fornasier, and K. M. White, "Psychological predictors of young adults' use of social networking sites," *Cyberpsychology, Behavior, and Social Networking*, vol. 13, no. 2, pp. 173-177, 2010.
- [13] T. Ryan and S. Xenos, "Who uses facebook? An investigation into the relationship between the big five, shyness, narcissism, loneliness, and Facebook usage," *Computers in Human Behavior*, vol. 27, no. 5, pp. 1658-1664, 2011.
- [14] C. Ross, E. S. Orr, M. Sisc, J. M. Arseneault, M. G. Simmering, and R. R. Orr, "Personality and motivations associated with facebook use," *Computers in Human Behavior*, vol. 25, no. 2, pp. 578-586, 2009.

- [15] H. J. Kim, K. H. Shin, and N. Swanger, "Burnout and engagement: A comparative analysis using the big five personality dimensions," *International Journal of Hospitality Management*, vol. 28, no. 1, pp. 96-104, 2009.
- [16] B. W. Swider and R. D. Zimmerman, "Born to burnout: A meta-analytic path model of personality, job burnout, and work outcomes," *Journal of Vocational Behavior*, vol. 76, no. 3, pp. 487-506, 2010.
- [17] D. Peabody and L. R. Goldberg, "Some determinants of factor structure from personality-trait descriptors of factor structure from personality-trait descriptors," *Journal of Personality and Social Psychology*, vol. 57, no. 3, pp. 552-567, 1989.
- [18] G. Saucier, "Mini-Maker: A brief version of goldberg's unipolar big-five markers," *Journal of Personality Assessment*, vol. 63, pp. 506-516, 1994.
- [19] E. G. Carmines and R. A. Zeller, *Reliability and Validity Assessment*, Beverly Hills, CA: Sage, 1979.
- [20] R. F. DeVellis, *Scale Development: Theory and Applications*, Newbury Park, CA: Sage, 1991.

Ching-Chang Lee is professor of Information Management at the National Kaohsiung First University of Science of Technology in Taiwan. He had been the Dean of Research & Development, Director of Center of Industry-Academia Collaboration and Dean of General Affairs in NKFUST. He received his doctoral degree in Information Systems from the College of Management, National Sun Yat-Sen University in Taiwan. His primary research interests include IS curriculum design, electronic commerce, mobile commerce, decision support systems and social network service. His papers have appeared in a number of journals, such as *Decision Support Systems* and *Communications of the Association for Information Systems*.