



# The influence of personality on Facebook usage, wall postings, and regret

Kelly Moore<sup>a,\*</sup>, James C. McElroy<sup>b</sup>

<sup>a</sup> Department of Marketing, 2350 Gerding Business Building, Iowa State University, Ames, IA 50010-1350, United States

<sup>b</sup> Department of Management, 2350 Gerding Business Building, Iowa State University, Ames, IA 50010-1350, United States

## ARTICLE INFO

### Article history:

Available online 17 October 2011

### Keywords:

Facebook  
Personality  
Five Factor Model (FFM)

## ABSTRACT

The Five Factor Model of personality has been used extensively in the management and psychology fields to predict attitudes and behaviors. Only recently have researchers begun to examine the role of psychological factors in influencing an individual's use of technology platforms, such as Facebook. This study uses both a survey of Facebook users and actual Facebook data to uncover why some individuals are more involved in Facebook than others. 219 undergraduate students participated in a survey that assessed their personality and their reported usage of Facebook. Of these, 143 voluntarily befriended the investigator, which gave her access to their actual Facebook sites and objective data on their number of friends, photos, and wall postings. Results showed personality to explain significant amounts of variance over and above gender and Facebook experience in terms of actual number of Facebook friends, the nature of their wall postings and on their level of regret for inappropriate Facebook content.

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## 1. Introduction

The Internet has opened many new avenues through which people can communicate and socialize, with social networking sites (SNSs) playing an important part. By the second quarter of 2008, Forrester Research estimated 75% of Internet users were involved in some sort of 'social media' (Kaplan & Haenlein, 2010). Specifically, Facebook users account for about 37.5% of the entire US population (Saleem, 2010) and Facebook accounts for an astonishing 17.9% of all time spent online (Srinivasan, 2009a). This growing new trend has prompted researchers to become interested in what types of people rely on online social media tools in their interactions with others (Correa, Hinsley, & de Zúñiga, 2010).

Most research regarding Facebook relates to identity presentation and privacy concerns (Ellison, Steinfield, & Lampe, 2007; Ross et al., 2009). The purpose of this study is to examine the role of personality in Facebook usage. In doing so, we look at how personality affects the digital footprint people leave on this popular social network, not only in terms of time spent on Facebook, but also in terms of its use and content. We hope to address the issue of how personality influences the degree to which individuals use this form of social networking and the content they include.

Our study has two noteworthy contributions. First, previous studies have examined the relationship between the Big Five personality traits and Facebook usage, however much of this has been limited to surveys of Facebook users, their motives for turning to

social networks (Amiel & Sargent, 2004; Ross et al., 2009), and their attitudes toward social networking (Gangadharbatla, 2008). Many of these studies and others (Hamburger & Ben-Artzi, 2000) offer insights into what kind of information people include on Facebook, their attitudes toward using Facebook, the frequency of their use of the various features of this medium, as well as on gender differences (Correa et al., 2010; Hamburger & Ben-Artzi, 2000). However, this research relies almost exclusively on self-reported, rather than actual usage. A notable exception is the work of Amichai-Hamburger and Vinitzky (2010), who encoded individuals' actual Facebook page content. Looking at Facebook user pages, they rated the amounts of basic, personal, educational, and work-related information about Facebook users. They then examined how the amounts of each type of information were affected by the personality of respective users. Our study extends this body of research by going beyond the association between personality and self-reported Facebook usage and features (e.g., number of friends and photos) to an examination of actual Facebook content. Specifically, we extend the work of Amichai-Hamburger and Vinitzky (2010) on actual Facebook content to include wall posting activity. That is, we consider how personality traits influence the extent to which Facebook users post primarily about themselves or about others.

Second, questions have arisen about the appropriateness of content being posted on Facebook and other social networking sites and the fact that other parties (e.g., universities and employers) may gain access to Facebook information and use it in making decisions that adversely affect the Facebook account holder (Brady, 2006). Previous research has looked at user perceptions of the appropriateness of information posted on Facebook. For example,

\* Corresponding author. Tel.: +1 515 294 7860; fax: +1 515 294 7112.

E-mail address: [kellym@iastate.edu](mailto:kellym@iastate.edu) (K. Moore).

Peluchette and Karl (2008) found that 20% of Facebook users reported posting information that they would not want their employers to see, with males being more likely than females to post questionable comments or pictures on Facebook. Disclosing too much of an individual's personal life is very easy to do on a medium like Facebook, and can very quickly lead to regret, which in its most extreme form can lead to "Facebook suicide" or the closing of a user account (Justice, 2007). While some research exists on the possible causes of why people make postings on Facebook they later regret (Wang et al., 2011), no research exists, however, documenting the degree to which individuals vary in their sense of concern or regret over such Facebook activity. To begin to fill this gap in the literature, we look at the effects of personality on Facebook users' sense of regret regarding their use of Facebook.

## 2. Personality and Facebook

Personality psychologists have reached a consensus that the domain of personality can best be described by the Big Five dimensions of the Five Factor Model (FFM) (Devaraj, Easley, & Crant, 2008). Barrick, Mount, and Judge (2001) described FFM as the most useful taxonomy in personality research, while Costa and McCrae (1992) consider it the most comprehensive and parsimonious model of personality. The FFM has received considerable empirical support and is now considered the standard personality trait measure (Wehrli, 2008). The five personality factors; extraversion, agreeableness, conscientiousness, emotional stability, and openness to new experiences; relate to people's behavior in a wide variety of contexts (Wehrli, 2008). Personality was chosen over other individual differences such as cognitive style (e.g., Meyers-Briggs Type Indicator) due to recent evidence suggesting the Big Five personality factors predict Internet use better than cognitive style (Davis, Bagozzi, & Warshaw, 1989; Devaraj et al., 2008; McElroy, Hendrickson, Townsend, & DeMarie, 2007). Moreover, Amichai-Hamburger (2002) has made the case that personality is a major predictor of internet behavior, while others have linked personality to on-line activities such as blogging (Guadagno, Okdie, & Eno, 2008) and contributing to Wikipedia (Amichai-Hamburger, Kaplan, & Dorpatcheon, 2008).

Previous researchers have looked at the role of personality traits as they relate to the Internet, in general (Amiel & Sargent, 2004; Devaraj et al., 2008; Engelberg & Sjöberg, 2004; McElroy et al., 2007; Swickert, Hittner, Harris, & Herring, 2002) and to social media, such as Facebook, in particular (Amichai-Hamburger & Vinitzky, 2010; Amichai-Hamburger, Wainapel, & Fox, 2002; Ross et al., 2009; Wehrli, 2008). With respect to the Internet, Amiel and Sargent (2004) explored the relationship between personality and internet usage motives. They found those scoring high in neuroticism (low emotional stability) reported using the Internet to feel a sense of "belonging" and to be informed, while extraverts made more instrumental and goal-oriented use of Internet services (Amiel & Sargent, 2004). McElroy et al. (2007) found personality to be a much better predictor of internet use than cognitive style, while Devaraj and associates' (2008) results showed a moderating role for personality on the relationship between technology usefulness and intention to use and between subjective norms and intention to use (with the exception of openness).

The research involving Facebook has found some dimensions of personality to be better predictors of Facebook usage than others. Moreover, personality has been shown to influence some aspects of Facebook usage but not others, as noted below.

### 2.1. Extraversion and Facebook

Extraversion refers to the extent to which individuals are social, cheerful, optimistic, active and talkative. Individuals high in

extraversion are expected to engage in high amounts of social interaction and approach others more easily (Wehrli, 2008). It is the least debatable personality trait as it relates to Facebook usage because it has consistently shown strong, although sometimes contradictory, effects in prior studies. Research has offered two competing explanations for the relationship between extraversion and Facebook usage: social compensation and the "rich-get-richer" (Ong et al., 2010). According to the social compensation explanation, introverts would have the most to gain from the use of social networks like Facebook because such indirect communication allows them to compensate for their lack of interpersonal skills, while the "rich-get-richer" proposition argues that extraverts benefit more since Facebook simply provides another platform for them to communicate with friends and contacts made off-line. While some research has demonstrated that extraverts spend less time in chat rooms (McElroy et al., 2007), presumably because they prefer face-to-face communication, most research lends support to the "rich-get-richer" argument. However, the extent of the role of extraversion is dependent on the nature of Facebook usage.

Wehrli (2008) and Correa et al. (2010), for example, found extraversion to be positively related to the use of social networks. Extraverts spend more time on social network sites (Wilson, Fornasier, & White, 2010) and they report having a larger Facebook imprint in terms of belonging to more Facebook groups (Ross et al., 2009) and more Facebook friends (Ong et al., 2010) than less extraverted users. However, when examining actual Facebook activity, Amichai-Hamburger and Vinitzky (2010) found just the opposite; that extraversion was not related to the number of Facebook groups to which one belonged but that it was positively related to the actual number of Facebook friends one had. More importantly, extraversion does seem to be related to the nature of Facebook usage and content. Correa et al. (2010) found that extraverts reported making more contact with their Facebook friends, were more likely to broadcast their activities and events on Facebook, and posted more pictures on Facebook. Moreover, Bibby (2008) found that extraverts engaged in more self-disclosure through self-generated Facebook content. On the other hand, Amichai-Hamburger and Vinitzky (2010) reported extraverts engaging in less divulgence of personal information on their Facebook profiles. These findings suggest that extraversion is more closely related to personal disclosure of one's current activities and thoughts as opposed to established interests, favorites (e.g., songs, movies, etc.), and relationship status, all of which are more likely already known to friends of extraverts. This speculation is consistent with the view of Amiel and Sargent (2004), who argued that extraverts would see social networks as places to share information and opinions rather than as a substitute for real interaction. Finally, because extraverts use social networks for self-disclosure, they are less likely to regret doing so than are introverts. Therefore, we propose:

**Hypothesis 1.** Extraversion will be related to Facebook usage such that more extroverted users will report spending more time on Facebook, use it more frequently, have more Facebook friends, more frequently post information on their walls, post more photos, and engage in more self-generated wall postings, and report less regret over what they post. Because other-generated wall postings do not involve self-disclosure, we propose no relationship between extraversion and wall postings about others.

### 2.2. Agreeableness and Facebook

Agreeable persons represent the tendency to be sympathetic, courteous, flexible, kind, trusting and forgiving. Individuals high in agreeableness have been known to avoid conflict, but are

presumed to not reject an offer of friendship (Wehrli, 2008). Generally speaking, agreeableness is said to favorably influence social interactions and their perceived quality (Wehrli, 2008). However, agreeable people might not necessarily be driven to establish an on-line connection (Swickert et al., 2002). Compared to extraversion, much less research has been conducted relative to agreeableness and Facebook usage. Ross et al. (2009) and Amichai-Hamburger and Vinitzky (2010), for example, found no relationship between agreeableness and Facebook usage, while Swickert et al. (2002) found a significant relationship between agreeableness and the reported use of recreational Facebook activities, such as instant messaging and online games. In related research, Amichai-Hamburger, Kaplan, and Dorpatcheon (2008) found that individuals low in agreeableness were more likely to be Wikipedia members, presumably because they could correct others without having to be sympathetic or courteous. This suggests that agreeableness may be negatively related to frequency of use, wall postings about others and to regret. That is, people who are low in the trait of agreeableness may be more likely to use Facebook, post comments on their own Facebook wall about others, but express less regret in doing so. Consequently, while there is little basis for hypothesizing a relationship between agreeableness and the size of one's Facebook imprint (e.g., number of friends, photos and amount of time spent on Facebook) we do offer the following hypothesis:

**Hypothesis 2. Agreeableness** will be related to Facebook usage such that more agreeable users will use Facebook less frequently, make fewer wall postings about others and express more regret over their Facebook activity.

### 2.3. Conscientiousness and Facebook

Conscientiousness represents the tendency to be reliable, responsible, organized and self-disciplined. Conscientious individuals have a high intrinsic motivation to achieve and are usually trying to improve their level of job performance. The rationale is that if a highly conscientious person believes Facebook will not drive efficiency or production, they will have decreased behavioral intentions towards it (Devaraj et al., 2008). In other words, conscientious individuals will not invest a large amount of resources in Facebook because they prefer to stick to their main goals by avoiding distraction (Wehrli, 2008). Previous research indicating that conscientious people spend more time online engaged in academic pursuits than in leisure activities (McElroy et al., 2007) supports this notion, as does the finding of Wilson et al. (2010) that highly conscientious people spend less time on social networking sites. However, such support is not unanimous (Ross et al., 2009). On the other hand, being more responsible, highly conscientious people will more likely express regret over posting inappropriate material. For the aforementioned reasons, we expect a person who is high in conscientiousness to use Facebook less than other individuals, but express higher levels of regret.

**Hypothesis 3. Conscientiousness** will be negatively related to Facebook usage such that people higher in conscientiousness will spend less time on Facebook, use it less frequently, have fewer friends, post fewer pictures, make fewer wall postings, and express more regret.

### 2.4. Emotional stability and Facebook

The opposite of emotional stability is neuroticism, which refers to the extent to which individuals display negative attributes such

as distrustfulness, sadness, anxiety, embarrassment, and difficulty managing stress. Neuroticism has previously been assumed to be negatively associated with social relationships (Wehrli, 2008) but positively related to the amount of time they spend online (McElroy et al., 2007).

Early studies found individuals high on neuroticism were heavier Internet users than extraverts (Amichai-Hamburger et al., 2002; Correa et al., 2010). Recently, Wehrli (2008) found a positive relationship between neuroticism and social media usage, offering the explanation that individuals low in emotional stability tend to spend more time on social networking sites because they may try to make themselves look as attractive as possible.

People who exhibit neurotic tendencies like to use chat rooms (Hamburger & Ben-Artzi, 2000) and instant messaging (Ehrenberg, Juckes, White, & Walsh, 2008). Ross and associates (2009) found people high on the trait of neuroticism reported the Wall as their favorite Facebook component. Amichai-Hamburger and Vinitzky (2010) found that highly neurotic people were more likely to post private information and post fewer photos on their Facebook profile than those in the less neurotic group. Butt and Phillips (2008) suggest that this is related to a need on the part of more neurotic people for control over information. A related explanation is that participation in online communication gives neurotic personalities longer to contemplate what they are going to say as opposed to face-to-face communication (Correa et al., 2010; Ehrenberg et al., 2008; Ross et al., 2009). Given neurotic personalities are anxious and nervous by nature, they would be more likely to be upset with and regret posting anything of a questionable nature.

**Hypothesis 4. Emotional stability** will be negatively related to Facebook usage such that people higher in emotional stability will spend less time on Facebook, use it less frequently, have fewer friends and express less regret, but positively related to Facebook content; i.e., people higher in emotional stability will post more pictures and a greater number of self-generated wall postings.

### 2.5. Openness to experience and Facebook

Openness to experience represents an individual's curiosity, open-mindedness, and their willingness to explore new ideas. Openness reflects an individual's imagination and originality. Little research has been conducted on the relationship between openness and Facebook. Tangentially, McElroy et al. (2007) found that openness was a significant predictor of general Internet use, while Guadagno et al. (2008) found people high in openness to be more likely to blog. Ross et al. (2009) found that individuals high on the trait of openness to experience were more willing to consider alternative methods of communication, which is important in Facebook use. Correa et al. (2010) also found a positive relationship between openness and social media use. People higher in openness engaged in increased online sociability through Facebook, a finding they attributed to the novel nature of this form of social communication technology. Amichai-Hamburger and Vinitzky (2010) found that more open individuals revealed more personal information about themselves on their Facebook profile. This suggests that individuals with high scores in openness to experience will be more likely to use and keep up with Facebook. Given their curious nature, people high in openness to new experiences are less likely to regret their Facebook experiences.

**Hypothesis 5. Openness** to new experience will be positively related to Facebook usage such that people higher in openness will spend more time on Facebook, use it more frequently, and initiate more self-generated wall postings, than people low in openness, but will be negatively related to regret.



### 3. Method

#### 3.1. Sample

A sample of 219 undergraduate students at a large Midwestern university participated in the study. The students were offered extra course credit to participate. Of the 219 students in the sample, 204 (93%) indicated they had a Facebook account. Of the 204 students who had a Facebook account, 127 (63%) were male and 77 (37%) were female.

#### 3.2. Procedure

The study consisted of two parts. The first part entailed an electronic, web-based survey given in a campus computer lab, which was completed by all 204 participants. Upon completion of the survey, participants were invited to login to Facebook and send a friend invitation to one of the investigators. Those who voluntarily sent a friendship request to the investigator did so knowing that this provided the investigator access to the respondent's actual Facebook page. One hundred forty three of the participants voluntarily provided the investigator with access to their actual Facebook sites. To determine whether any differences existed between those who participated in the second phase of the study and those who opted out, *F*-tests were conducted between the 143 who provided the investigator with access to their Facebook pages and the 61 who did not. No significant differences were found between the two groups on any of the five personality factors or gender. The only significant difference was that more experienced Facebook users were less likely to grant the investigator access to their sites than were less experienced users ( $F = 18.80$ ;  $p \leq .01$ ).

#### 3.3. Measures

The survey portion of the study allowed us to gather data on user personality and Facebook usage. The Big-Five personality factors were measured using Goldberg et al. (2006) 50-item International Personality Item Pool (IPIP). A number of other measures of the Five Factor Model of personality have been developed, including the NEO Personality Inventory (NEO-PI-R) and the NEO Five-Factor Inventory (NEO-FFI) (Costa & McCrae, 1992), the California Psychological Inventory (Gough, 1987) and the Hogan Personality Inventory (Hogan & Hogan, 1992), all of which are proprietary. While most research on personality and Facebook has relied on the NEO PI-R or NEO-FFI instrument (e.g., Amichai-Hamburger & Vinitzky, 2010; Ross et al., 2009), the IPIP is very user friendly (i.e., nonproprietary and much shorter) and research has shown strong evidence of convergent and discriminant validity and interchangeability with the NEO-FFI (Lim & Ployhart, 2006). Scale reliabilities for the five personality dimensions of the IPIP were acceptable with Cronbach's alpha values of .90 for extraversion, .81 for agreeableness, .82 for conscientiousness, .83 for emotional stability and .79 for openness to experience.

The Facebook usage measures included respondent assessments of time spent on Facebook, frequency of use, and regret. Time spent on Facebook was measured by a single item asking respondents to indicate the average amount of time spent per day on Facebook. A 5-point response scale was used with options ranging from less than ½ h to over 2 h using ½ h increments. Frequency of use was measured using a three item 10-point scale, adapted from Ross et al. (2009). Ross et al. measured the frequency of basic use functions and included both public (e.g., posting photos) and private (private Facebook messages). For our study, we deleted the item dealing with the frequency of sending private messages and the

use of the “poking” function which conveys only an interest in communicating later, not actual communication per se. The three items used asked respondents to indicate how frequently they commented on others' photos, posted on others' walls, and checked their own walls, with response options ranging from never to multiple times per day. Cronbach's alpha for this scale was .84. Finally, regret was measured using a five item scale, which asked respondents how often they posted material or comments that they regretted later, postings or comments that they would not want their employer to see, or posted material that they would not want their parents to see. A 4-point response format ranging from never to frequently was used. Cronbach's alpha for this scale was .85.

The second part of the study enabled investigators access to the actual Facebook pages of 143 respondents. The analysis of actual Facebook pages is similar to the methodology employed by Amichai-Hamburger and Vinitzky (2010), although we look at different types of information. Amichai-Hamburger and Vinitzky (2010) examined what they refer to as user information upload; a profile of user basic information (e.g., user demographics), personal information (e.g., activities, interests, and favorite things), contact information (e.g., home address, e-mail) and educational/work information (e.g., school, company). We opted to look, not at information about the Facebook user, but what they do and put on Facebook. Specifically, visiting respondent Facebook sites enabled us to collect data on the actual number of friends and photos for each respondent and to evaluate their wall postings. Number of Facebook friends is an automated count on the website appearing in the users' “friends” section. Number of photos was measured by the investigator counting the actual number of photos posted. Wall postings were read and categorized into self-focused (posting about oneself) versus postings about others over a 5 day period by two experimenters. There were 184 total wall posts over the 5-day period. Of the 184 wall posts, raters agreed on the categorization of 175 wall posts. Inter-rater agreement was 95%, with a kappa statistic of .90, which according to Landis and Koch (1977) indicates nearly perfect agreement. The nine discrepancies were discussed between raters and placed in an agreed upon category.

Finally we collected data on two additional variables, gender and experience with Facebook. Research showing gender differences in perceptions of appropriateness (Peluchette & Karl, 2008), coupled with the fact that the longer one has been on Facebook the more likely they are to regret something, led us to control for these two individual differences. Gender was entered as a dummy variable, with 1 = male and 2 = female. Experience with Facebook was measured using a single item, 6-point response scale asking respondents to indicate how long they have had a Facebook account, with responses ranging from 6 months to 3 or more years in 6 month increments.

### 4. Results

Means and standard deviations along with a correlation matrix are shown in Table 1. Hierarchical regression was used to test the effect of personality on Facebook usage and content. Gender and length of experience using Facebook were entered in step 1 as control variables with their respective beta values and significant levels shown as Model 1 in Table 2. Following this, the Five Factor Model of personality was entered in step 2. Their betas and significance levels are reported as Model 2 in Table 2.

As shown in Table 2, gender had significant effects on Facebook usage and content, both independently and in the presence of the personality factors. A significant positive relationship was found between gender and a number of variables of interest. Specifically,

**Table 1**  
Descriptive statistics and correlation matrix.<sup>a</sup>

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender <sup>b</sup>	1.38	.49	–													
2. Facebook experience	5.62	.97	.17	–												
3. Extraversion	3.42	.73	.24	.18	–											
4. Agreeableness	3.84	.51	.38	.17	.44	–										
5. Conscientiousness	3.55	.58	.21	.02	.17	.27	–									
6. Emotional stability	3.33	.63	–.09	–.01	.18	.16	–.02	–								
7. Openness	3.57	.53	–.04	.11	.38	.31	.19	.18	–							
8. Time spent	2.33	1.32	.28	.17	.15	.09	–.02	–.20	–.02	–						
9. Frequency of use	3.90	1.76	–.40	–.30	–.30	–.20	–.02	.16	–.06	–.49	–					
10. Actual # friends	423.93	334.16	.25	.27	.36	.23	.10	–.03	.05	.23	–.41	–				
11. Number of photos	286.25	536.92	.35	.17	.22	.22	.08	–.01	.09	.06	–.28	.50	–			
12. Self-postings	.46	1.26	.11	–.04	.11	.21	–.03	–.02	.13	.06	–.18	.07	.11	–		
13. Other-postings	.49	1.29	–.03	–.01	.12	.15	–.18	.12	.05	.02	–.15	.12	.10	.63	–	
14. Regret	3.04	.65	–.07	–.15	–.18	.06	.17	.20	–.09	–.26	.28	–.14	–.11	.03	.10	–

<sup>a</sup> Correlations greater than  $\pm .14$  are statistically significant at  $p \leq .05$ .

<sup>b</sup> 1 = male, 2 = female.

women reported spending more time on Facebook, had a greater number of Facebook friends, posted more photos and more postings about themselves than did males. The significant negative relationship between gender and frequency of use suggests that although women spend more time overall on Facebook, they visit their Facebook site less frequently than men do.<sup>1</sup>

Facebook experience was also significantly related to several variables of interest in the study. The more experience Facebook users had, the less frequently they visited Facebook and the more Facebook friends they had. The more experienced Facebook users were also likely to spend more time on Facebook, post more photos, but have fewer posting about themselves on their Facebook walls. These latter findings, however, are superseded by the presence of the personality factors, which suggests that personality is a more important determinant of these aspects of Facebook use and content than is experience.

As shown in Table 2, the addition of the five personality factors significantly added to the variance explained in time spent using Facebook, actual number of Facebook friends, the amount of self-generated postings and postings about others and user perceptions of regret over inappropriate Facebook content. The statistically significant amounts of additional variance explained by personality over and above that explained by gender and experience on Facebook ranged from 6% for time spent on Facebook to 41% for postings about others. Personality did not significantly add to the model's prediction of frequency of Facebook use or the actual number of photos people post on Facebook.

Extraversion was predicted in Hypothesis 1 to be positively related to time spent on Facebook, frequency of use, number of friends and photos and the number of postings about oneself and negatively related to regret. The results shown in Table 2 show that more extraverted people have more Facebook friends and that they report less regret over Facebook content than less extraverted individuals. These findings lend some support for Hypothesis 1. Unexpectedly, more extraverted individuals reported significantly less frequent use of Facebook for keeping up with others than introverts; a finding that offers some support for the “social compensation” explanation of the relationship between extraversion and social network site use. Extraversion was not significantly related

to time spent on Facebook, number of photos, or the number of wall postings (either about self or others).

Lack of research on the role of agreeableness and Facebook justified only a couple of predictions in Hypothesis 2. The only finding supportive of Hypothesis 2 was the positive relationship between agreeableness and regret. More agreeable people expressed greater levels of regret about inappropriate content they may have posted on Facebook. The predictions that agreeableness would be negatively related to frequency of use and number of wall postings about others received no support. Surprisingly, people higher in agreeableness did make a greater number of postings about themselves than did less agreeable people.

Hypothesis 3 predicted that more conscientious people would be less likely to use Facebook, post fewer photos and wall postings, ostensibly because it distracts them from goal related activity. However, because of their responsible nature, a positive relationship between conscientiousness and regret was hypothesized. Results shown in Table 2 offer some support for the connection between conscientiousness and Facebook content. People high in conscientiousness made significantly fewer wall postings, about either self or others, and expressed more regret than did less conscientious users. Conscientiousness was not related to time spent, frequency of use, number of friends or number of photos. Thus Hypothesis 3 received only partial support.

Hypothesis 4 received little support. Emotional stability was negatively related to time spent on Facebook. That is, more neurotic users spend more time on Facebook than do those higher in emotional stability. None of the other predictions proved significant. Emotional stability was not significantly related to actual number of friends or photos, or to the number of wall postings about either self or other. Unexpectedly, emotional stability was positively related to both how frequently they use Facebook to keep up with others and regret.

Finally, openness proved to have no significant effect on either Facebook usage or content, as shown by the lack of significant findings in Table 2. Consequently, Hypothesis 5 received no support.

## 5. Discussion

Previous research has suggested that personality may not be as influential a factor in the use of social networks as previously thought (Ross et al., 2009). Our study, on the other hand, demonstrated that personality accounted for significant amounts of variance over and above that explained by gender and Facebook experience. While it only explained 6% of the variance in self-reported time spent on Facebook, personality was found here to explain 14% of the variance in regret, 16% of the variance in actual

<sup>1</sup> As noted, gender was significantly related to most of the dependent variables both independently and in the presence of personality. At the suggestion of one of the reviewers, we ran additional regression analyses entering in interaction effects for gender and each of the five personality factors as additional predictors of each of the seven dependent variables. Because only a couple of the 35 tests of significance proved significant, a result that could be accounted for by chance, we conclude that gender does predict some aspects of Facebook usage and content but has little interaction with personality in doing so.

**Table 2**

Regression results for the effects of personality on Facebook usage, wall postings and regret.

	Time spent		Freq. of use		Actual # friends		# Photos		Self-postings		Other-postings		Regret	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
<i>Control variables</i>														
Gender	.61**	.58**	−1.41***	−1.26***	148.28***	91.39*	527.22***	521.86***	1.32*	1.38*	.60	.65	−.06	−.12
Facebook experience	.19*	.18	−.37**	−.31**	114.91***	94.72***	92.79***	71.13	−.84*	−.51	−.03	−.01	−.09	−.07
<i>Personality</i>														
Extraversion		.27		−.55**		169.11***		131.11		.12		.52		−.22**
Agreeableness		−.18		.03		27.23		−9.99		1.50*		1.34		.25*
Conscientiousness		−.23		.27		7.39		−60.71		−1.16*		−1.52**		.24**
Emotional stability		−.45**		.43*		1.20		−6.85		−.11		.45		.22**
Openness		.04		−.13		−23.78		100.25		.65		−.45		−.17
R <sup>2</sup>	.08	.15	.22	.29	.24	.40	.21	.27	.20	.44	.02	.43	.02	.17
Adjusted R <sup>2</sup>	.07	.11	.22	.26	.23	.37	.20	.23	.16	.31	−.03	.30	.01	.13
F	8.45***	4.36***	27.36***	10.69***	23.75***	13.72***	17.71***	6.21*	4.31*	3.31*	.36	3.44**	2.16	5.15***
ΔF		2.58*		3.34		7.60***		1.30		2.53*		4.59**		6.22***
ΔR <sup>2</sup>		.07		.07		.16		.06		.24		.41		.15

\*  $p \leq .05$ .\*\*  $p \leq .01$ .\*\*\*  $p \leq .001$ .

number of Facebook friends, 24% of the variance in the number of self-postings and 41% of the variance in the number of postings about others. These effect sizes are substantial in light of previous research suggesting that one of the problems in personality research is small effect sizes (Ross et al., 2009). The discrepancy in the magnitude of the role of personality may be a function of what is being measured. That is, personality appears to have a much larger role in predicting actual Facebook usage and content, as attested to here and in the work of Amichai-Hamburger and Vinitzky (2010), than in predicting self-reported Facebook usage, as was the case in Ross et al.'s (2009) work. The message here is clear. To accurately assess the role of personality, one should use actual Facebook data where possible and rely on survey data for information that cannot be obtained objectively, such as feelings of regret or one's motivation for using particular Facebook features. Future research could test this by making direct comparisons between the effects of personality on self-reported versus actual measures of number of friends, photos, time spent on Facebook, etc.

The purpose of this study was to investigate the role of personality on Facebook use and content. In terms of Facebook usage, less emotionally stable (neurotic) individuals report spending more time on Facebook, while more emotionally stable and more introverted users report more frequently going to Facebook to keep up with friends. All of the personality factors are related to regret, with the exception of openness to new experiences, with more agreeable, more conscientious, more emotionally stable and less extraverted users reporting greater levels of regret for inappropriate content.

With respect to Facebook content, this study confirms the work of Amichai-Hamburger and Vinitzky (2010) showing that extraverts have a significantly wider social network than introverts. In fact, in our study, the 10% of our respondents scoring the highest in extraversion had, on average, 484 more friends than the 10% scoring the lowest in extraversion. We also lend some support to the notion that introverts use social networks to compensate for a lack of interpersonal communication (Ong et al., 2010). We found no evidence, however, to support Bibby's (2008) claim that extraverts self-disclose through self-generated content such as wall postings. This finding supports the positive social interaction hypothesis offered by Swickert and colleagues (2002) that suggests that highly agreeable individuals may experience more positive

interactions when engaging in recreational Facebook activities (wall posting in the case of this study). As expected, we found that highly conscientious people use the Facebook wall function significantly less than other individuals and that individuals high in agreeableness are more likely to post wall content about themselves. We found no support for Ross et al.'s (2009) findings that those high in emotional stability have a higher preference for posting photos, that those low in emotional stability have a higher preference for wall posting, or that those high in openness send more messages to others (other-directed wall postings).

This research also suggests that both gender and experience are important predictors of Facebook usage and content, but not regret, and should, at minimum, be controlled for in future research. Experience becomes less important as a predictor of Facebook use and content in light of personality differences; a fact that makes sense, since if personality is a predictor of Facebook, then certain personalities are more likely to acquire such experience. Gender, on the other hand, remained a significant predictor even when personality is factored in. While gender did not interact with personality factors in this sample, it warrants additional study as a variable of interest in research on Facebook.

### 5.1. Limitations and future research

As with previous research, our findings were not always in line with our predictions. Our predictions were based on previous research, some of which is equivocal and some of which is based on preferences or self-reports versus others on actual Facebook data. A number of methodological issues require caution in interpreting the results of this study and in comparing our results with previous research. For example, a direct comparison of our results with previous research must be tempered by the fact that we used a different measure of personality (IPIP), in spite of evidence of its interchangeability with the NEO-FFI (Lim & Ployhart, 2006). In addition, the absence of a standardized measure of regret in the context of Facebook usage, resulted in the use of a self-developed five item measure. While all five items loaded on a single factor, more work needs to be done on the development of a regret instrument if this line of inquiry is to continue. Finally, sample size in experimental research, particularly that involving personality, is an issue. The loss of 61 participants between the two parts of this study, in spite of a lack of substantial differences between those

who participated in part 2 and those who did not, remains a limitation. While small effect sizes are common to research on personality (Ross et al., 2009), Amichai-Hamburger and Vinitzky (2010) reported effect sizes of .05 (for the effect of personality on personal information) and .07 (for number of friends); effect sizes that fall between small and medium (but closer to small), according to Cohen (1992). Small effect sizes require very large sample sizes for research involving the number of independent variables used in our study, while medium effect sizes call for a sample size of around 100 subjects (Cohen, 1992). Consequently, a larger sample size would have enabled us to be more confident of our results.

An additional limitation is that we looked at the role of the Big Five personality factors on certain aspects of Facebook usage and content but other variables, both independent and dependent, provide direction for future research. For example, Ross et al. (2009) has suggested that specific traits or motivations not captured by the Big Five factors may provide additional insight into Facebook use and content and we echo that call. To their suggestions of shyness, narcissism, and desire for communication, we would add self-efficacy and need for affiliation, among others. Additional research, not only on whom but on why people use Facebook is also warranted. Moreover, gaining access to actual Facebook sites opens up additional avenues for future research examining actual Facebook content such as the nature of photographs posted, the content of postings (e.g., communication, social, work related), comments posted by one's friends, privacy settings, and the use of specific Facebook features. The concept of regret also offers opportunities for future research. While we were one of the first to look at the role of personality on regret, we only generally tapped into this concept. Future research could extend Wang et al. (2011) research on what type of Facebook content leads to regret, whether it is the content per se or the consequences associated with such content that causes regret, and the varying amounts of regret generated by such content.

Additional control variables could also be examined. We only controlled for gender and experience, but a number of other individual differences such as age, family size (which yields a potentially higher number of "friends"), and the extent to which a Facebook user belongs to other social network sites may prove relevant. Finally, research on the connection between personality and Facebook has yet to address the issue of potential intervening variables. For example, is it possible to become committed to Facebook (over other social network sites) or even addicted to it and, if so, how does that affect Facebook use and content?

## 5.2. Implications

Facebook has become an important phenomenon to scholars and practitioners alike. The site has become very popular and gained an extremely large audience as it surpassed MySpace for the SNS with the highest market share (Srinivasan, 2009b). Moreover, the implications for businesses are wide-ranging. Many businesses are changing the way they conduct their marketing activities through the use of Facebook as an advertising vehicle, distribution channel, and to foster word-of-mouth referrals. The degree to which we can ferret out the relationship between personality and Facebook offers companies valuable insight into the nature of who is likely to comment on company Facebook sites about things such as product usage and quality and the extent of potential word of mouth advertising conveyed through personal Facebook pages.

Understanding the role played by personality as an individual difference and its impact on SNS usage will help researchers explain how technology usage in general evolves. Research has now identified a number of relationships between personality and Facebook usage and content. What is needed now is the

development of a theoretical framework to explain why some people devote varying amounts of time and energy to this phenomenon. Personality has certainly earned a place in such a framework. But with the development of additional social network sites (e.g., Linked-In), such a framework would help identify early adopters, as well as extent of use. Incorporating personality into existing models of technology adoption and use, such as TAMS 2 (Venkatesh & Davis, 2000) and UTAUT (Unified Theory of Acceptance and Use of Technology, Venkatesh, Morris, Davis, & Davis, 2003), would be a useful first step.

## Acknowledgement

The authors would like to thank Dr. Marc Anderson for his comments on an earlier version of this paper.

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