



Make new friends or keep the old: Gender and personality differences in social networking use

Nicole L. Muscanell*, Rosanna E. Guadagno

Department of Psychology, University of Alabama, AL 35487-0348, United States

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ABSTRACT

The present study examined the influence of gender and personality on individuals' use of online social networking websites such as Facebook and MySpace. Participants were 238 undergraduate students who reported being members of Facebook, MySpace, or both. Based on prior research examining online behavior, we expected that gender and scores on the Big Five personality scale would moderate online social networking behavior. The results supported our predictions. Specifically, men reported using social networking sites for forming new relationships while women reported using them more for relationship maintenance. Furthermore, women low in agreeableness reported using instant messaging features of social networking sites more often than women high in agreeableness, whereas men low in openness reported playing more games on social networking sites compared to men high in openness. Overall, these results indicate the importance of examining individual differences in online behavior.

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1. Introduction

In recent years, use of the Internet as a means of interpersonal communication has grown and changed dramatically. One such change is the advent of social networking websites. Social networking sites, such as Facebook (www.facebook.com) and MySpace (www.myspace.com), provide Internet users with a virtual venue oriented toward interpersonal communication with friends, relatives, peers, co-workers, and strangers. In 2005 only 8% of adult Internet users were members of social networking websites (Lenhart, 2009). However, that number has more than quadrupled to 35% in 2009. Because social networking sites are relatively new, there is a paucity of psychological research examining questions such as: What specific behaviors do individuals engage in while using these sites? And what psychological processes underlie these behaviors? This paper aims to address these questions by examining individual differences in social networking usage. Specifically, we examined whether gender and the five-factor model of personality (Big 5; Benet-Martinez & John, 1998; John, Donahue, & Kentle, 1991; John, Naumann, & Soto, 2008) moderate the activities individuals engage in while using social networking sites.

1.1. What is a social networking site?

Social networking sites provide a venue for people to interact with other individuals – friends, family, or solely online friends (Raacke & Bonds-Raacke, 2008). Facebook and MySpace are the two most popular social networking sites, both with more than 100 million unique visitors per month (ComScore, 2008). These websites are specifically known as friend-networking sites, in which the main purpose is to keep in contact with friends and family and make new friends.

Facebook and MySpace include various communication features that allow individuals to send public and private messages, post photographs, blog, instant message (IM), and even play games. Individuals can search for other users by name or interests—and accumulate friends by “friend requesting” other users. Both Facebook and MySpace are similar in that their focal point is the user profile – a webpage that displays their personal information. While, they differ in some of their features, the present investigation focused on more general features that both sites offer their users, such as those listed above.

1.2. Online social networking research

Research on the psychological aspects of social networking use is emerging but still limited. A majority of the existing work has focused on aspects of self-presentation (Fogel & Nehmad, 2009; Kramer & Winter, 2008; Manago, Graham, Greenfield, & Salimkhan, 2008; Magnuson & Dundes, 2008; Tong, Van Der Heide, Langwell, & Walther, 2008). While there have been some peripheral

* Corresponding author. Address: Department of Psychology, University of Alabama, P.O. Box 870348, Tuscaloosa, AL 35487-0348, United States. Tel.: +1 407 758 2003; fax: +1 205 348 8648.

E-mail address: nlmuscanell@crimson.ua.edu (N.L. Muscanell).

examinations of individual differences such as gender and personality, self-presentation has been the primary focus. For instance, one such study indicated extraverted (i.e., outgoing) individuals present themselves in a less restrained manner on social networking sites (e.g., choosing to present photos with more experimental colors) compared to introverts (Kramer & Winter, 2008). Additionally, research including gender has found that women were more likely than men to regularly change various aspects of their profile pages (Raacke & Bonds-Raacke, 2008), present a social portrait of themselves that revolves around others (i.e., boyfriends; Magnuson & Dundes, 2008; Peluchette & Karl, 2008) and present less personal information (Fogel & Nehmad, 2009; Raacke & Bonds-Raacke, 2008). Men, however, were more likely to display more risky photos or information (e.g., comments or photos involving sex or alcohol; Peluchette & Karl, 2008).

Other research has shown that individuals use information from other peoples' profile to make attributions about their personality (Walther, Van Der Heide, Kim, Westerman, & Tong, 2008). For instance, individuals with a moderate number of friends are rated as more attractive than individuals with very high or low numbers of friends (Tong et al., 2008). Perceptions of individuals based on their profiles have also been shown to be quite accurate in reflecting their personality (Back, Schmukle, & Egloff, 2008; Back et al., 2010; Buffardi & Campbell, 2008).

1.3. Personality differences in online behavior

Psychological research acknowledges that the central aspects of personality can be described as a five-factor model (Big 5; Benet-Martinez & John, 1998; John et al., 1991, 2008). According to the Big 5, personality consists of five main factors: extraversion, agreeableness, openness to new experience, conscientiousness, and neuroticism (Costa & McCrae, 1992). Extraversion represents an individual's level of sociability and outgoingness. Agreeableness reflects the extent to which an individual engages in and endorses interpersonal cooperation. Openness reflects the extent to which an individual is willing to explore new situations. Conscientiousness reflects the extent to which an individual is organized, careful, and shows self-control. Finally, neuroticism reflects emotional stability.

These factors have been explored previously in relation to motivations for using the Internet. Research has shown that individuals high neuroticism (particularly women; Amichai-Hamburger & Ben-Artzi, 2003; Bargh, McKenna, & Fitzsimons, 2002; Butt & Phillips, 2008; Guadagno, Okdie, & Eno, 2008), high in openness (Guadagno et al., 2008), low in extraversion (Amichai-Hamburger & Ben-Artzi, 2003; Bargh et al., 2002), and low in agreeableness (Landers & Lounsbury, 2006; Peters & Malesky, 2008) may be particularly likely to use the Internet for various activities. Additionally, introverted and neurotic women were found to be less anxious when communicating online (Rice & Markey, 2009).

To our knowledge, only a few published studies have examined individual differences and Facebook use. Ross et al. (2009) explored how the Big 5 and competency and familiarity with technology (motivation to use computer-mediated communication: CMC) differentiated use of Facebook: individuals high in extraversion were members of more Facebook groups; individuals high in neuroticism used the wall (a public message board within the user profile that displays status updates and messages from other users) for communication; and individuals high in openness to new experiences were more likely to use Facebook for socializing (e.g., sending messages). Finally, they found that those higher in CMC motivation reported spending more time on Facebook and using the Facebook wall more often. Other recent research has compared social networking site users to non-users in terms of individual differences. In an Australasian sample, Facebook users were found to

be more extraverted, narcissistic, and less conscientious, and lonely compared to non-users (Ryan & Xenos, 2011). Finally, other research has also begun to explore a more specific individual difference variable: jealousy (Elphinstone & Noller, 2011; Muise, Christofides, & Desmarais, 2009; Muscanell, Guadagno, Rice, & Murphy, in preparation). Specifically, this emerging research indicates that Facebook may perpetuate or lead to jealousy in the contexts of romantic relationships. Our research seeks to expand on these individual differences in social networking, by examining the interaction between the five factor model and gender.

1.4. Gender differences in online behavior

In addition to the work cited above, there is also a substantive body of literature examining gender differences in online settings. While research indicates that there is no gender difference in overall amount of Internet use (Fallows, 2005, December), there are gender differences in motivations for Internet use and utilization of time spent online. For example, women are more likely to use the Internet to assuage social interaction and are also more likely to engage in behavior consistent with feminine gender role norms that promote relationship maintenance, 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 behavior consistent with their gender role norm that promotes achievement-orientation (Guadagno & Cialdini, 2002, 2005, 2007; Guadagno, Muscanell, Okdie, Burke, & Ward, 2011; Lucas & Sherry, 2004; Weiser, 2000, 2001; Williams, Consalvo, Caplan, & Yee, 2009). This tendency for women to be more focused on interpersonal communication online is also consistent with research in face-to-face contexts. Based on gender role expectations, women have traditionally been more focused on maintaining relationships whereas men have traditionally been more task-focused (Eagly, 1987). Additionally, women are generally more concerned with relational issues and directly discussing their relationships in order to maintain them as compared to men (Baxter & Wilmot, 1983).

With regard to online social networking, there has been some investigation of gender differences in social networking use (Boyd, 2007; Hargittai, 2008; Peluchette & Karl, 2008; Raacke & Bonds-Raacke, 2008). Such research has examined more general characteristics of social networking users (including gender). For instance, a study by Hargittai (2008) found that women were more likely overall to use social networking sites and were specifically more likely to use MySpace compared to men. Equal amounts of men and women were users of Facebook. Men were also found to be more likely to use social networking sites for dating and to learn about new events compared to women (Raacke & Bonds-Raacke, 2008). It appears then that gender differences found in online behavior may apply specifically to social networking sites, such that men and women use these sites, but for different reasons. These reasons may relate to gender role expectations for behavior indicating gender differences in relationship-orientation.

2. The present study

In summary, the research on individual differences – personality and gender – in online behavior indicates that individual differences can predict the extent to which individuals use the Internet for various activities. Our examination focused solely on users of social networking sites. While previous research has found some support for the relationship between personality and social networking (e.g., Ross et al., 2009; Ryan & Xenos, 2011), our aim was to predict specific social networking activities and reasons for use from both gender and personality.

2.1. Predictions

We expected to find that men's and women's use of social networking sites would be consistent with previous research (Baxter & Wilmat, 1983; Guadagno & Cialdini, 2002, 2007; Guadagno et al., 2011; Eagly, 1987; Raacke & Bonds-Raacke, 2008) on gender differences in both online and offline contexts.

1. Specifically, we predicted that women's social networking use would be more oriented towards relationship maintenance compared to men.

Based on prior research demonstrating personality differences in online behavior, we expected personality to predict social networking behavior (Amichai-Hamburger & Ben-Artzi, 2003; Bargh et al., 2002; Butt & Phillips, 2008; Guadagno et al., 2008; Hamburger & Ben-Artzi, 2000; Landers & Lounsbury, 2006; Peters & Malesky, 2008) and also based on the results of Ross et al. (2009) and Ryan and Xenos (2011).

2. It was expected that extraversion would predict activities that facilitate social relationships (while not replacing social interaction), such as sharing photographs.
3. Contrary to Ross et al., it was expected that within a larger sample size, openness and agreeableness would influence social networking site use.
 - a. It was expected to find that openness would predict individuals' use of some of the more adventurous feature offered by social networking sites (e.g., playing games, blogging).
 - b. It was expected that highly agreeable individuals would engage more frequently in social networking activities that would allow them to be more sociable with others.
4. Conscientiousness was expected to predict posting private versus public information. Since highly conscientious individuals may also be concerned with sharing public information, we expected that these persons would less frequently engage in public exchange, and more frequently in private interaction.
5. It was also expected that neuroticism would be related to engagement in posting of public information (blogs, photos, and comments). Based on previous research (Ross et al., 2009), we expected that highly neurotic individuals, who may be concerned with information control (the ability to consider carefully and exchange appropriate self-relevant information) to post public wall comments more frequently and also more blogs/notes, and that this would be particularly true for women (Guadagno et al., 2008).

RQ1. Finally, we were interested in exploring the question of whether or not any of the personality measures would interact with gender to predict social networking use.

2.2. Method

2.2.1. Participants

Participants were 238 (135 men and 103 women) undergraduate psychology students who completed an online survey about social networking in order to fulfill a course requirement. Participants' mean age was 19 ($SD = 2.33$). Ethnicity was self-reported: 88.2% Caucasian, 7.3% African American, 1.6% Asian, 1.2% Hispanic, 0.4% Native American, and 1.2% other ethnicity. The majority of participants (96.7%) indicated that they were current members of at least one online social networking site. Of these individuals, 63.9% reported using solely Facebook, 1.3% reported using solely MySpace, and 34.5% reported using both Facebook and MySpace.

Participants who inaccurately reported their gender or did not report being members of a social networking site were excluded from our data analysis.

2.2.1.1. Procedure. Participants completed an online survey and were informed that the purpose of the study was to assess individual opinions and experiences with online social networking sites.

2.2.1.2. Measures. Participants completed a 50-item survey assessing demographic information and information on participants' use of online social networking sites ("Approximately how much time do you spend on online social networking sites?"; "What reasons do you use online social networking sites for?"; and "What types of activities do you engage in when you use online social networking sites?"). The latter questions covered topics ranging from the specific social networking sites used to specific details on social networking behaviors and activities. Example questions included: "How often do you send/post public messages?", "How often do you send private messages?", "How often do you post notes/blogs?" and "How often do you send friend requests?". With regard to activities engaged in we assessed the approximate frequency of engagement in those activities on a scale of 1 (*not very often*) to 7 (*very often*). The survey in its entirety is available in the Appendix. Additionally participants completed the Big Five Inventory (BFI), a self-report inventory (44 items) designed to measure the Big Five dimensions including neuroticism, extraversion, openness to new experience, agreeableness, and conscientiousness (Benet-Martinez & John, 1998; John et al., 1991, 2008).

3. Results

3.1. Overview of the data analysis

Each of the Big 5 subscales produced acceptable reliabilities (see Table 1). Additionally, both men and women tended to fall near the middle of the scale for each of the subscales, with the exception of neuroticism, which had slightly lower scores. Overall, these scores are comparable to previous research on personality for the typical college student age range (Srivastava, John, Gosling, & Potter, 2003). Please see Table 1 for means and standard deviations for each of the five subscales.

We conducted a series of logistic regression analyses in order to examine whether gender and personality predicted the use of social networking sites and reasons for using social networking sites. We then conducted a series of linear regression analyses to predict whether gender and personality predicted the frequency of these activities on social networking sites. In all cases, we entered gender as a dichotomous predictor, the Big 5 subscale as a centered continuous predictor, and a gender by subscale interaction term (see Aiken & West, 1991).

3.1.1. Gender differences in social networking

Our analyses revealed a number of gender differences in reasons for using social networking sites. Specifically, our analyses revealed that as compared to women, men were more likely to use social networking sites to find potential dates, $\beta = -1.85$, $se_b = .64$, Wald (1, df) = 8.47, $p = .004$, to network for careers, $\beta = .93$, $se_b = .44$, Wald (1, df) = 4.53, $p = .03$, and to make friends, $\beta = -.62$, $se_b = .28$, Wald (1, df) = 5.03, $p = .03$. In terms of how often individuals engaged in specific behavior, gender was a significant predictor of playing games indicating that men were more likely to report playing games more often than women, $\beta(173) = .55$, $t(173) = 2.13$, $p = .03$.

Women, on the other hand, reported more frequently posting public messages (messages viewable by both the profile owner

Table 1Big Five Inventory means and standard deviations ($N = 238$).

	Men ($n = 135$)		Women ($n = 103$)		Overall	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Extraversion, $\alpha = .86$	3.72	1.28	4.25	1.42	3.97	1.36
Agreeableness, $\alpha = .83$	4.48	1.04	4.96	1.13	4.71	1.11
Conscientiousness, $\alpha = .81$	4.13	1.17	4.58	1.02	4.34	1.12
Openness, $\alpha = .84$	4.62	1.18	4.01	1.09	3.83	1.16
Neuroticism, $\alpha = .79$	2.07	1.26	2.67	1.44	2.35	1.3

Note: Items were measured on a scale of 1 (strongly disagree) to 7 (strongly agree).

and other Facebook users), $\beta(173) = -.58$, $t(173) = -2.33$, $p = .02$, posting photographs, $\beta(173) = -1.22$, $t(173) = -5.14$, $p < .001$, sending private messages, $\beta(173) = -.62$, $t(173) = -2.15$, $p = .03$, and sending friend requests, $\beta(173) = -.74$, $t(173) = -2.98$, $p = .003$ compared to men.

3.1.1.1. Personality differences in social networking. Individuals high in extraversion were more likely to report posting photographs, $\beta(237) = .05$, $t(237) = 3.47$, $p = .001$. Additionally, individuals high in conscientiousness were more likely to report sending private messages, $\beta(237) = .03$, $t(237) = 1.97$, $p = .05$.

3.1.1.2. Interactions between gender and personality. There was a significant gender by agreeableness interaction on posting blog entries, $\beta(234) = -.65$, $t(234) = -2.51$, $p = .01$ (see Fig. 1). Simple effects demonstrated that agreeableness did not predict frequency of blog postings for women, $t(99) < 2.0$, *ns.* but did for men. Specifically, men who were low in agreeableness posted blog entries more often than men who were high in agreeableness, $\beta(131) = .99$, $t(131) = 1.97$, $p = .002$. There was a similar gender by agreeableness interaction on how often individuals engage in IM, $\beta(234) = .09$, $t(234) = 2.39$, $p = .02$ (see Fig. 2). Simple effects indicated that agreeableness was not a significant predictor of frequency of instant messaging for men $t(131) < 2.0$, *ns.* However, gender was a significant predictor of instant messaging for women, $\beta(99) = -.94$, $t(99) = -1.99$, $p = .05$. Specifically, women low in agreeableness reported engaging in IM more often than women who were high in agreeableness.

Finally, there was a significant gender by openness to new experience interaction on how often individuals play social networking games, $\beta(234) = .69$, $t(234) = 2.58$, $p = .01$ (see Fig. 3). Simple effects indicated that openness was not a significant predictor of playing games for women, $t(103) < 2$, *ns.* However, men low in openness to new experience reported playing games on social networking sites more often than men who were high in openness to new experiences, $\beta(131) = 1.26$, $t(131) = 3.41$, $p = .001$.

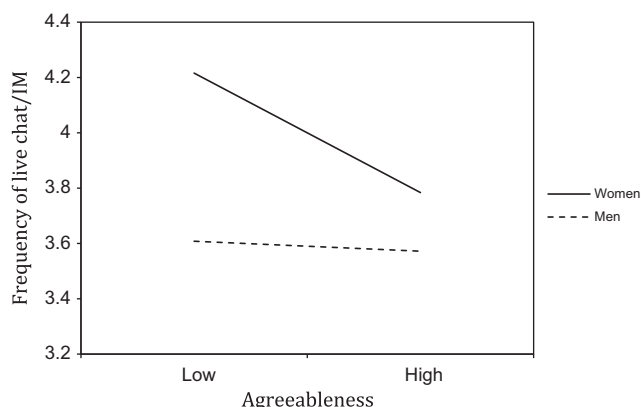


Fig. 1. Gender by agreeableness predicting the frequency of posting blogs.

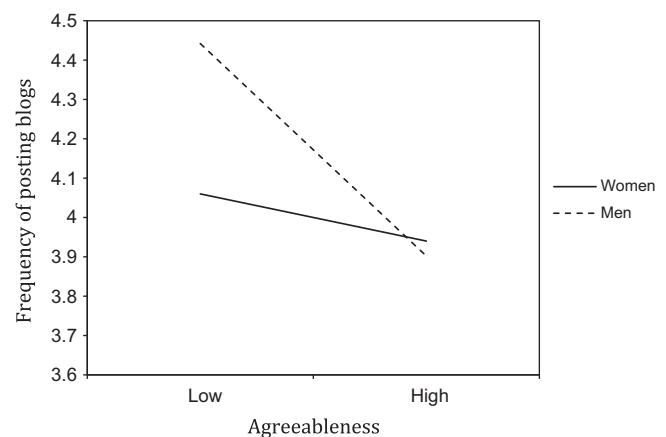


Fig. 2. Gender by agreeableness predicting the frequency of live chat/instant messaging.

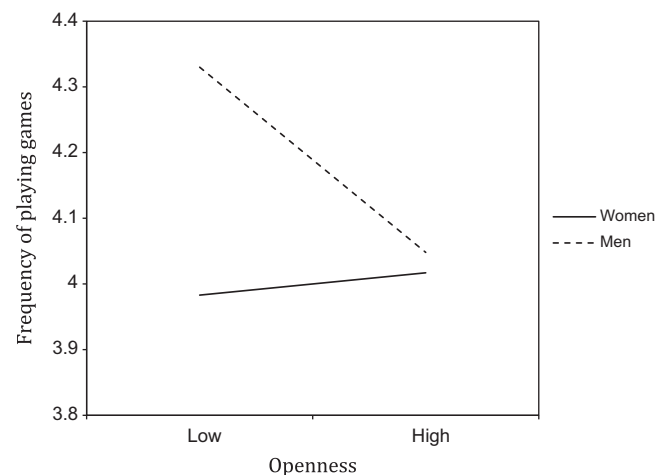


Fig. 3. Gender by openness predicting the frequency of playing games.

4. Discussion

Consistent with our overall predictions, the results demonstrated that both gender and personality are related to both individuals' reasons for using social networking sites and their engagement in specific activities within these sites. Predictions were supported in that gender predicted individuals' social networking use such that women were more oriented towards activities that facilitate relationship maintenance compared to men. It was also found that men were more likely than women to report using social networking sites for networking, making new friends, and finding potential dates. This suggests that men may use social networking sites more for forming new relationships compared to

women. These findings are consistent with the results of a recent study demonstrating that men use Facebook to make new contacts more frequently than do women (Mazman & Usluel, 2011).

Overall, this gender difference may be explained by gender role expectations that suggest men are and ought to be more adventurous (Helgeson, 1994) and therefore may be more willing to meet new people through online mediums. Furthermore, while women have been found to be more interpersonal and relationship oriented online (Weiser, 2000, 2001; Williams et al., 2009), they also express more privacy concerns and engage in less identity disclosure compared to men on social networking sites (Fogel & Nehmad, 2009) and thus may be more likely to interact with individuals they already know and trust. These findings demonstrate the importance of differentiating between orientation towards relationship formation or relationship maintenance when considering social networking use.

In terms of our personality findings, extraversion, agreeableness, openness, and conscientiousness predicted social networking behaviors. Neuroticism however was unrelated to social networking use. Thus, the findings with regard to personality and social networking use primarily supported our predictions but also revealed a few surprises. The finding that extraversion predicted likelihood of posting photographs was consistent with predictions since outgoing individuals should want to share pictures with others, and sharing photos is a social tool and not a replacement for actual social interaction. This is consistent with previous research (Ross et al., 2009). Likewise, the finding that conscientiousness was a significant predictor of sending private messages makes sense because individuals that are more cautious use private messages as a means of demonstrating caution in sharing personal messages with others. Conscientious social networking users may show some restriction in the information they publicly display on social networking websites, which is consistent with research showing that conscientiousness persons make more cautious judgments (Olson & Suls, 2000).

Finally, results demonstrated that gender and personality did interact to predict specific social networking behaviors. Agreeableness predicted use of IM, however this relationship was moderated by participant gender. Specifically, women low in agreeableness reported using IM more often than women high in agreeableness. It may be that women low in agreeableness rely on social networking sites more heavily for interpersonal communication because it allows them to communicate with others more effectively compared to less restricting communication modes in which their disagreeable characteristics would be more salient (e.g., face-to-face). Additionally, it takes individuals a greater amount of time to form impressions of each other online, so low agreeable individuals may actually benefit from chatting within social networking sites as it may take longer and be more difficult for others to pick up on their disagreeable nature (Okdie, Guadagno, Bernieri, Geers, & McLaren-Vesotski, 2011).

Unexpectedly, men low in openness reported playing games more often than men high in openness, and men low in agreeableness reporting posting blog entries more than men high in agreeableness. While it was predicted that those higher in openness would use features like games and blogging, we maintain that this further supports our contention that men, relative to women, opt to use social networking sites less so for interpersonal reasons and more for task-oriented ones. Particularly, men low in openness compared to those high in openness may spend more time playing games as opposed to venturing out and using the wide variety of interpersonal communication features such as IM, private messaging, or photo sharing. Similarly, men low in agreeableness may particularly be likely to post blog entries as opposed to engaging in direct communication as a means of expressing oneself. This is inconsistent with Guadagno et al. (2008), in which individuals high

in openness and neuroticism (particularly neurotic women) reported blogging more often. However, it may be that personality characteristics of individuals attracted to social networking sites are different than those of individuals who are attracted to stand-alone blogging sites owing to differences in the opportunities for social interaction between these two technologies.

Surprisingly, neuroticism was not significantly related to any of the specific social networking activities we measured, which is inconsistent with previous research on Internet use (Amichai-Hamburger & Ben-Artzi, 2003; Bargh et al., 2002; Guadagno et al., 2008; Rice & Markey, 2009). This may in part be due to the fact that research that found such relationships examined neuroticism in relation to general Internet use, whereas the present investigation included only intragroup examinations of social networking site users. It may be that social networking site users differ in personality characteristics compared to individuals that use the Internet for other purposes. Additionally, our sample consisted mainly of individuals who were lower in neuroticism and this may have contributed to our lack of findings in terms of this particular personality variable.

In conclusion, our research demonstrates that individual differences, specifically gender and personality are important predictors of individuals' use of social networking sites. While gender differences reflected some of those found in more general Internet use, there were also some unique personality differences more closely associated with specific activities on social networking websites.

4.1. Limitations and future research

One limitation of this study was that while we measured gender and personality as predictors of Facebook use, we did not measure other potential moderators such as participant's technical expertise and privacy concerns. Previous research demonstrates that both of these factors technical expertise (or CMC competency as defined by Ross et al. (2009)), and privacy concerns (Acquisti & Gross, 2007) influence how much and what kinds of information people disclose on social networking sites. Thus, future research should demonstrate the combined effects of gender, personality, and additional individual differences such as technical expertise and privacy concerns to more fully explain individual's behaviors on sites like Facebook. Additionally, our sample mostly consisted of college students between the ages of 18 and 21. Future research should examine all age ranges as recent research suggests that the fastest growing population of Facebook is older adults, ages 55 and up (Smith, 2009). Finally, future research should also examine whether or not these findings generalize to other popular social networking websites such as Twitter, or Google's new social networking site, Google+.

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Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.chb.2011.08.016](https://doi.org/10.1016/j.chb.2011.08.016).

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