Narcissism or Openness?: College Students' Use of Facebook and Twitter

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Speculation that social networking sites (SNSs) breed narcissism has produced research with mixed results (e.g., Bergman, Fearrington, Davenport, & Bergman, 2011; Buffardi & Campbell, 2008). This study viewed SNSs as tools for communication and maintaining relationships, examining whether providing information about oneself reflects a positive attitude about sharing such information with one's social network, rather than reflecting narcissism. A questionnaire was completed by 233 undergraduate students. Results indicated that attitude toward being open about sharing information about oneself was significantly related to frequency of using Facebook® and Twitter to provide self-focused updates. Higher levels of narcissism were associated with a larger number of Facebook friends and with the number of self-focused “tweets” an individual sends.

Keywords: Facebook; Narcissism; Social Networking; Twitter

With 845,000,000+ Facebook® users worldwide (see http://www.facebook.com/press/info.php?statistics), it is a popular means by which people stay connected to their social network (Ellison, Steinfield, & Lampe, 2007; Hampton, Goulet, Rainie, & Purcell, 2011). Scholars in psychology have studied personality variables of users of social networking sites (SNSs; e.g., Ryan & Xenos, 2011; Wilson, Fornasier, & White,
Perhaps because these sites have features enabling individuals to share information about themselves, some scholars (e.g., Buffardi & Campbell, 2008; Mehdizadeh, 2010) have focused on narcissism. Despite the limitations of these studies and some inconsistent findings, popular press articles (e.g., Jayson, 2009; O'Dell, 2010; Rosen, 2007) have proclaimed that SNSs breed narcissism among users.

Critiques of SNSs and branding of users as narcissistic are based on limited empirical evidence, and fail to consider that such sites are inherently communication tools. Hampton et al. (2011) found that Facebook users have more close social ties; that most of what they “do” on Facebook, besides provide status updates about themselves, is comment on others’ posts, updates, and photos; and that “Facebook use seems to support intimacy rather than undermine it” (p. 25). These and other study results (e.g., Stern & Taylor, 2007; Urista, Dong, & Day, 2009) calls into question the conclusion that activity on an SNS is narcissistic, and raises the possibility that active self-presentation on an SNS reflects a openness about sharing information about oneself with others to facilitate communication and maintain relationships with one’s wide circle of friends and acquaintances. This study investigated whether a communication perspective better explains individuals’ activities on SNSs than narcissism does. With so many SNS users, it is important to determine whether their behavior is aberrant (i.e., narcissistic) or appropriate for the relationship maintenance purpose of these sites.

**Narcissism and Social Networking**

Several studies have examined the association between the usage of SNSs—in particular, Facebook—and narcissism. According to Buffardi and Campbell (2008), “Narcissism refers to a personality trait reflecting a grandiose and inflated self-concept” (p. 1304). The narcissist tends to view him- or herself as intelligent, powerful, physically attractive, unique, and entitled (Buffardi & Campbell, 2008). Some researchers (e.g., Twenge & Foster, 2010; Twenge, Konrath, Foster, Campbell, & Bushman, 2008a, 2008b) have claimed that there has been a significant increase in narcissism among “generation Ys” or “millennials” over the last 2 decades, although others dispute this (Trzesniewski, Donnellan, & Robbins, 2008a, 2008b).

Research studying the association of narcissism with usage of an SNS has generally concluded that there is a positive relationship (e.g., Buffardi & Campbell, 2008; Mehdizadeh, 2010; Ryan & Xenos, 2011), but a closer look reveals limitations and inconsistent findings. Buffardi and Campbell, using the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) and coding, had raters examine individuals’ Facebook pages. They found that higher scores on the NPI were related to more interactions on Facebook (specifically, number of friends and wall posts); there was no relation between page owners’ narcissism and quantity of information they posted about themselves, as had been expected. Narcissism was positively related to coder ratings of self-promoting information, as well as “main photograph attractiveness, self-promotion, and sexiness” (Buffardi & Campbell, 2008, p. 1310).

Consistent with Buffardi and Campbell (2008), Mehdizadeh (2010) found that narcissism scores were positively correlated with the time spent on Facebook and
the number of times Facebook was checked per day. Results provided partial support for the hypothesis that narcissism scores are related to self-promoting content, although the study author did the ratings of self-promoting content; thus, the findings are potentially biased and, therefore, suspect.

In contrast to results obtained by Buffardi and Campbell (2008) and Mehdizadeh (2010), Bergman, Fearrington, Davenport, and Bergman (2011) found narcissism was unrelated to the amount of time spent on SNSs or the frequency of status updates. It also was not related to types of SNS activities, with the exception of more posting of self-focused pictures. However, results indicated that narcissism was positively related to the number of, and desire to have, many SNS friends, as well as to the belief that others are interested in one’s activities and a desire to let others know what one is doing. Ong et al. (2011) found that over and above extraversion, narcissism was positively related to self-ratings of the attractiveness of Facebook profile pictures and to the frequency of status updates (in contrast to Bergman et al.’s, 2011, findings). However, narcissism was unrelated to social network size (also in contrast to Bergman et al.’s, 2011, findings) and number of photos posted, once extraversion was taken into account. Finally, Ryan and Xenos (2011) reported that although Facebook users were higher on overall narcissism than non-users, narcissism was unrelated to the amount of time spent on Facebook (consistent with Bergman et al., 2011). This study also found that narcissism was associated with a preference for the “photos” feature, and that the exhibitionism dimension, but not the overall NPI score, was related to a preference for the “status updates” feature. However, the study did not distinguish between photos about oneself or viewing others’ photos, or between posting status updates or viewing others’ updates.

SNS Tools for Communication and Relationship Maintenance

Research by communication scholars on SNSs is limited, and has focused on how such sites form and maintain social capital (e.g., Ellison et al., 2007; Valenzuela, Park, & Kee, 2009) or on why individuals are drawn to such sites (e.g., Stern & Taylor, 2007; Uríst et al., 2009) and how they use them (e.g., Mansson & Myers, 2011). Findings have been consistent that individuals use these sites, particularly Facebook, largely to maintain existing relationships and stay connected to people in their lives (Ellison et al., 2007; Hampton et al., 2011; Stern & Taylor, 2007; Uríst et al., 2009). Mansson and Myers focused on how users expressed affection to maintain relationships, finding that many forms of expressed affection transpired on Facebook. Results of these studies, thus, suggest that users view these sites as enabling communication and the sharing of information about one another.

Rationales and Research Questions

The purposes of this study were twofold. First, because studies of narcissism and SNS usage have produced mixed results, additional research is warranted. This study overcame a limitation of published research by distinguishing between self-focused and other-focused SNS activity. Second, this study offered an alternative to narcissism
as the motivator of self-focused SNS activity by viewing SNSs as tools for communication and maintaining relationships. From this perspective, self-focused information may be motivated by a positive attitude about sharing such information to stay connected to one’s social network.

To the first purpose, studies have produced mixed results pertaining to the relationship between SNS usage and narcissism. Given these conflicting findings and the lack of research differentiating the focus of Facebook activity (i.e., to promote oneself or check out others), the following research questions were addressed:

**RQ1:** Are there positive relationships between narcissism and both the frequency of using Facebook to provide information about oneself and the number of Facebook friends?

**RQ2:** Is there a negative relationship between narcissism and frequency of using Facebook to find out about others?

All SNSs are not necessarily used in the same ways; previous research has not distinguished among SNSs or only examined Facebook. One other popular site, Twitter, described as an “information network” (www.twitter.com), has not been studied with respect to narcissism. Twitter would seem to be a perfect venue for narcissists because it allows individuals to answer the question, “What are you doing?,” via messages of 140 characters or less. The belief that there is an audience interested in following one’s moment-to-moment postings suggests egocentrism, self-aggrandizement, and self-importance—the very characteristics of narcissistic individuals. That one can tweet or follow others’ tweets suggests two possible relationships with narcissism. Therefore, we addressed the following research questions:

**RQ3:** Is there a positive relationship between narcissism and both the frequency of using Twitter to provide information about oneself and the number of Twitter followers?

**RQ4:** Is there a negative relationship between narcissism and frequency of using Twitter to follow others?

Although a “New Narcissism” (Rosen, 2007) may, in part, account for the popularity of SNSs, it is also likely that SNSs are simply one way young adults communicate. Bergman et al. (2011), in explaining their unexpected result that narcissism was unrelated to the amount of time on SNSs and the frequency of status updates, concluded the following: “This suggests that Millennials’ SNS usage is not solely about attention-seeking… but is also a means of staying connected and communication” (p. 709). In addition, the prevalence, ease, norm, and structure of SNSs may foster a positive attitude about being open about oneself. Providing information about oneself is normal and expected behavior on these sites. Acquisti and Gross (2006) concluded that “Respondents are fully aware that a social network is based on information sharing” (p. 18). Indeed, that is what Twitter is intended for, and the structure of Facebook, with user profiles, status updates, and so forth encourages such sharing. Thus, SNS users likely share information about themselves not because they are narcissistic, but because they have a positive attitude about sharing such information—an attitude
consistent with viewing SNSs as means to communicate and stay connected. Therefore, the following research questions were addressed:

RQ5: Are there positive relationships between attitudes about being open in sharing information about oneself and both the frequency of usage of Facebook overall and the frequency of usage of Facebook to inform friends about oneself?
RQ6: Are there positive relationships between attitudes about being open in sharing information about oneself and both the frequency of usage of Twitter overall and the frequency of usage of Twitter to inform friends about oneself?

Method

Participants

Undergraduate students (N = 233) in communication classes at a medium-sized, Southern university and at a medium-sized, Northeastern university were administered an anonymous survey. The sample consisted of 144 women (62%) and 89 men (38%), with an average age of 19.77 years (SD = 1.55). Of the respondents, 86.6% were White, 5.2% were Hispanic, 4.7% were African American, 0.4% were Asian, and 3% were “other.” There were no significant differences on any variables between the two universities.

Measures

Attitude toward being open. This measure consisted of 20 Likert-type items, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). The items, which we generated, were designed to tap participants’ attitudes about how open they are in sharing information about themselves with others in their social circles (e.g., “I share information about myself with only a few close friends,” and “I enjoy letting people know things about me”). Existing measures of self-disclosure did not capture the concept of attitude toward being open in sharing information about oneself with the wider social network. For instance, the Wheeless (1978) Revised Self-Disclosure Scale was designed for respondents to focus on a “specific target individual,” and all items tap behavior, whereas the measure we developed incorporated items focused on attitudes. However, the Wheeless amount and valence dimensions were useful in helping us generate items.

Items were factor analyzed using principal components with varimax rotation, producing a three-factor solution accounting for 54.68% of the variance (see Table 1). 1 The first factor, reveal, had six items, and tapped participants’ willingness to be open and the enjoyment of sharing information about themselves with a wide circle of friends (M = 3.03, SD = 0.73). Privacy, the second dimension, was defined by four items that referred to a lack of concern for privacy (e.g., “People worry too much about their privacy”; M = 2.52, SD = 0.70). The final factor, valence, consisted of four items focused on willingness to share both positive and negative information about oneself (M = 3.35, SD = 0.64).

Usage of SNSs. To measure how frequently participants use Twitter and Facebook, 13 items were generated. Response options for 11 of the items were as follows: 0
Table 1  Principal Components Factor Analysis of the Attitude Toward Openness Scale

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1: Reveal</th>
<th>Factor 2: Privacy</th>
<th>Factor 3: Valence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I let a wide circle of friends know a lot about me.</td>
<td>.79</td>
<td>.10</td>
<td>.04</td>
</tr>
<tr>
<td>2. I share information about myself with only a few close friends. (R)</td>
<td>-.68</td>
<td>-.22</td>
<td>-.05</td>
</tr>
<tr>
<td>3. I like letting people know a lot about me.</td>
<td>.72</td>
<td>.20</td>
<td>.05</td>
</tr>
<tr>
<td>4. I let very few people know what I've been up to lately. (R)</td>
<td>-.66</td>
<td>-.12</td>
<td>-.08</td>
</tr>
<tr>
<td>5. I don't hide much about myself with my wide circle of friends.</td>
<td>.71</td>
<td>.13</td>
<td>.15</td>
</tr>
<tr>
<td>6. I enjoy letting people know things about me.</td>
<td>.63</td>
<td>.18</td>
<td>.15</td>
</tr>
<tr>
<td>7. Keeping information about myself is very important to me. (R)</td>
<td>-.29</td>
<td>-.67</td>
<td>-.09</td>
</tr>
<tr>
<td>8. People worry too much about their privacy.</td>
<td>.18</td>
<td>.73</td>
<td>-.02</td>
</tr>
<tr>
<td>9. I don't worry about how much information people have about me.</td>
<td>.16</td>
<td>.66</td>
<td>.26</td>
</tr>
<tr>
<td>10. People today need to be more concerned about their privacy. (R)</td>
<td>-.13</td>
<td>-.79</td>
<td>.00</td>
</tr>
<tr>
<td>11. I generally let people know only good things about me. (R)</td>
<td>-.03</td>
<td>-.02</td>
<td>-.73</td>
</tr>
<tr>
<td>12. It is okay if people know bad things about me.</td>
<td>.18</td>
<td>.25</td>
<td>.66</td>
</tr>
<tr>
<td>13. It is best to let people know only things that make me look good. (R)</td>
<td>-.01</td>
<td>.04</td>
<td>-.76</td>
</tr>
<tr>
<td>14. I let people know good and bad things about me.</td>
<td>.21</td>
<td>.10</td>
<td>.74</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>4.40</td>
<td>1.86</td>
<td>1.39</td>
</tr>
<tr>
<td>Portion of variance</td>
<td>31.46</td>
<td>13.32</td>
<td>9.91</td>
</tr>
<tr>
<td>Cronbach's alpha</td>
<td>.82</td>
<td>.73</td>
<td>.71</td>
</tr>
</tbody>
</table>

Note: N= 233. R in parentheses refers to reflected items.

(never), 1 (less than a few times a month), 2 (a few times a month), 3 (a couple of times in a week), 4 (1 or 2 times a day), and 5 (many times a day). These items measured the frequency of using Twitter overall and sending tweets about oneself, following others' tweets, and updating one's profile photo and profile information; and the frequency of using Facebook overall and letting friends know what one is doing, finding out about friends, updating one's profile and profile photo, and posting photos of oneself. The other two items asked participants to indicate how many Twitter followers and Facebook friends they have. Table 2 presents descriptive statistics for all variables.

Measure of narcissism. To assess narcissism, the NPI (Raskin & Terry, 1988) was used. Evidence for construct validity of the NPI is reported by Raskin and Terry and Watson, Grisham, Trotter, and Biderman (1984). The NPI is a 40-item measure in which respondents must choose between two options for each item: an option that is indicative of narcissism (e.g., "I like to be the center of attention") and an option
that is not (e.g., "I prefer to blend in with the crowd"). Items were summed to produce a score ($M = 17.74, SD = 6.42$); reliability was good ($\alpha = .81$), and the mean was comparable to that obtained by Buffardi and Campbell (2008).

### Results

Table 2 presents descriptive statistics. Large variation was reported in the number of Twitter followers and Facebook friends; the medians were 38 and 700, respectively. Whereas 227 (97.4%) participants use Facebook, only one-third use Twitter.

The first two research questions focused on the relationships between narcissism and the use of Facebook to provide information about oneself ($RQ1$) and to find out about others ($RQ2$). Bivariate correlations revealed no significant relationships (see Table 3). However, narcissism was significantly and positively related to the number of Facebook friends ($r = .16, p < .05$), although the correlation was small.

$RQ3$ and $RQ4$ focused on relationships between narcissism and the frequency of using Twitter and the number of Twitter followers. Narcissism had a significant, positive relationship with the use Twitter to send tweets about oneself ($r = .26, p = .05$), but not with the number of Twitter followers or the use of Twitter to follow others (see Table 3).

$RQ5$ and $RQ6$ addressed the relationships between attitude toward being open in sharing information about oneself and both Facebook and Twitter use. The reveal dimension of attitude toward openness (i.e., willingness to be open and enjoyment of sharing information about oneself with a wide circle of friends) was significantly and positively related to the frequency of Facebook use to tell friends about oneself ($r = .30, p < .01$) and the frequency of sending tweets about oneself ($r = .24, p < .05$). The privacy dimension (i.e., a lack of concern for privacy) obtained a significant,
Table 3 Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
<th>(10)</th>
<th>(11)</th>
<th>(12)</th>
<th>(13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Narcissism</td>
<td>.13</td>
<td>.09</td>
<td>.02</td>
<td>.15</td>
<td>.26</td>
<td>.07</td>
<td>.04</td>
<td>.04</td>
<td>.06</td>
<td>.05</td>
<td>.12</td>
<td>.16</td>
</tr>
<tr>
<td>(2) Reveal</td>
<td>.47</td>
<td>.27</td>
<td>.19</td>
<td>.24</td>
<td>.01</td>
<td>.11</td>
<td>.30</td>
<td>.05</td>
<td>.19</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Privacy</td>
<td>.24</td>
<td>.03</td>
<td>.10</td>
<td>.11</td>
<td>.27</td>
<td>.02</td>
<td>.13</td>
<td>.01</td>
<td>.14</td>
<td>.04</td>
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<tr>
<td>(4) Valence</td>
<td>.17</td>
<td>.12</td>
<td>.06</td>
<td>.10</td>
<td>.08</td>
<td>.04</td>
<td>.00</td>
<td>.01</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) Use Twitter followers</td>
<td>.81 **</td>
<td>.85 **</td>
<td>.24</td>
<td>.10</td>
<td>.34 **</td>
<td>.15</td>
<td>.32 **</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6) Send tweets</td>
<td>.64 **</td>
<td>.31</td>
<td>.09</td>
<td>.45 **</td>
<td>.14</td>
<td>.26</td>
<td>.12</td>
<td></td>
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<td></td>
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<tr>
<td>(7) Follow tweets</td>
<td>.18</td>
<td>.04</td>
<td>.11</td>
<td>.07</td>
<td>.24</td>
<td>.05</td>
<td></td>
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<tr>
<td>(8) Number Twitter followers</td>
<td>.09</td>
<td>.08</td>
<td>.14</td>
<td>.06</td>
<td>.02</td>
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<tr>
<td>(9) Use FB</td>
<td>.31 **</td>
<td>.61 **</td>
<td>.23 **</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(10) FB about self</td>
<td>.56 **</td>
<td>.26 **</td>
<td>.04</td>
<td></td>
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<tr>
<td>(11) FB to find out about friends</td>
<td>.26 **</td>
<td>.06</td>
<td></td>
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<tr>
<td>(12) Post pics about self on FB</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>(13) Number FB friends</td>
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</tbody>
</table>

Note. N = 233. FB = Facebook. **p = .01. *p = .05.

Results of this study indicated that narcissism is unrelated to the frequency of using Facebook to post about oneself (i.e., status updates or photos) but, consistent with two studies (Bergman et al., 2011; Buffardi & Campbell, 2008), is related to the self-reported number of Facebook friends. However, narcissism was significantly related to using Twitter to send tweets about oneself. Finally, attitude toward being open about sharing information about oneself was significantly related to the frequency of using Facebook and Twitter to provide self-focused updates and photos of oneself.

These findings suggest that Facebook is not dominated by narcissistic millennials, as some have proposed (Jayson, 2009; Rosen, 2007), although, consistent with previous research, those higher on narcissism appear to be driven to amass a larger number of Facebook friends. A contribution of this study is that it examined the attitude toward being open about sharing self-focused information that reflects the communicative and
relationship maintenance functions of SNSs. The behavior of posting about oneself on Facebook may be better explained by the attitude that it is appropriate and enjoyable to share information with a wide circle of friends. One study found that participants reported a greater likelihood of disclosing personal information on Facebook than face to face (Christofides, Muise, & Desmarais, 2009), leading the authors to conclude that there is “something different” about the interaction on Facebook, perhaps because it “creates norms regarding what specific information to disclose based on what others have disclosed” (p. 343). Anderson and Raine (2010) stated that “A solid majority of technology experts and stakeholders said the Millennial generation will lead society into a new world of personal disclosure and information sharing using new media” (p. 2). Indeed, as Livingstone (2008) stated, “[S]ocial networking sites typically display as standard precisely the personal information that previous generations often have regarded as private” (p. 404). In sum, our study suggests that the posting of self-focused information and photos on Facebook reflects a positive attitude about such information sharing, not narcissism. This attitude may result from disclosure norms on Facebook, as well as its primary function to connect with one’s social network.

An additional contribution is that this study is the first to examine the relationship between narcissism and Twitter usage. Results suggest that Twitter may be the network of choice for narcissists, which may, in part, account for the substantially lower number of Twitter users, as compared to Facebook users. Respondents with significantly higher scores on the NPI also reported sending more tweets about themselves, but narcissism was not related to the number of Twitter followers (which is not in the user’s control) or using Twitter to follow others. Whether Twitter is the preferred tool for narcissists requires future research, but this study suggests that it may be.

A limitation of this study is the use of self-reports to assess the frequency of using SNSs to share information and view others’ information, as well as self-reports of the frequency of sending tweets about oneself. Actual usage may differ from self-reported usage. A final limitation is that the attitude toward openness measure was author-generated, and has not been systematically tested for validity. However, it has face validity, its dimensional structure was solid, and reliabilities were good. Future research should assess the construct validity of the measure.

Results of this study suggest that the use of SNSs by college students is not evidence of narcissism. It appears that the posting of photos of oneself and updating of one’s status on Facebook is more a reflection of young adults’ orientation to openness with regard to their daily lives. However, the usage of Twitter does appear to be somewhat narcissistically driven. Thus, it appears that it is not the technology that creates narcissism as much as it is the narcissistic personality that seeks a form of technology allowing one to be the center of attention.

Note

1. An earlier factor analysis revealed weak communalities for six items, which were subsequently dropped; many of the items were negatively worded and, thus, potentially confusing to respondents (i.e., 2 items were dropped from each factor—specifically, “I don’t like to
reveal much about myself," "It is fine if people I'm not close to know what I've been up to lately," "I don't keep many secrets about myself," "People are too open about themselves with others," "I don't mind revealing things about me that might be embarrassing," and "I don't worry about what others might think about what I say about myself").

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