



Narcissism on Facebook: Self-promotional and anti-social behavior

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ABSTRACT

A survey ($N = 292$) was conducted that measured self-promoting Facebook behaviors (e.g. posting status updates and photos of oneself, updating profile information) and several anti-social behaviors (e.g. seeking social support more than one provides it, getting angry when people do not comment on one's status updates, retaliating against negative comments). The grandiose exhibitionism subscale of the narcissistic personality inventory was hypothesized to predict the self-promoting behaviors. The entitlement/exploitativeness subscale was hypothesized to predict the anti-social behaviors. Results were largely consistent with the hypothesis for the self-promoting behaviors but mixed concerning the anti-social behaviors. Trait self-esteem was also related in the opposite manner as the Narcissism scales to some Facebook behaviors.

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1. Introduction

Facebook is one of the most popular websites in the world with over 600 million users (Ahmad, 2011). Those who use Facebook enjoy many benefits. Some college students use Facebook to seek and receive social support when they feel upset (Park, Kee, & Valenzuela, 2009; Wright, Craig, Cunningham, & Igiel, 2007). Toma and Hancock's (2011) recent experiments found when individuals are feeling distressed, they turn to Facebook to feel better. On the other hand, DeAndrea, Tong, and Walther (2011) argue that although online interaction provides opportunities for positive social interaction, some users abuse the affordances of social networking sites like Facebook to behave in anti-social ways. They argue that researchers need to move past seeking to determine if computer-mediated communication (CMC) has positive or negative effects as a whole but to determine why people use websites like Facebook in ways that promote or harm interpersonal relationships.

This study sought to take a step in that direction by examining one possible predictor of anti-social Facebook use: trait narcissism. The narcissistic personality type will first be briefly explicated. Then the existing research on the relationship between narcissism and Facebook use will be explored to develop hypotheses.

Investigating the relationship between narcissism and Facebook behavior is important because Facebook is becoming an increasingly important part of people's lives. Several researchers have found a relationship between narcissism and frequency of using Facebook (Buffardi & Campbell, 2008; Mehdizadeh, 2010; Ong

et al., 2011). Other researchers found that narcissism is associated with the number of friends their participants have on Facebook (Bergman, Fearington, Davenport, & Bergman, 2011). If these findings are accurate, it suggests that when people are interacting with others on Facebook, they are more likely to be interacting with individuals who are high in trait narcissism than in other contexts. If Facebook users are likely to be engaging in negative behaviors, the quality of the interpersonal interactions people experience on Facebook will be reduced. Furthermore, some research suggests that people are evaluated not just by their own profiles but by the comments others make on their profiles (Walther, Van Der Heide, Kim, Westerman, & Tong, 2008). The negative behavior of narcissists on Facebook may reflect poorly on the innocent friends of those narcissists. If the relationship between narcissism and various kinds of behaviors can be uncovered, perhaps interventions can be designed to improve the Facebook social skills of trait narcissists.

2. Narcissism

When they developed the narcissistic personality inventory (NPI), Raskin and Terry (1988) found a great deal of ambiguity in the personality literature concerning the primary aspects of narcissism. They therefore included a variety of heterogeneous traits in their conceptualization of narcissism. These included aspects such as "a grandiose sense of self-importance or uniqueness", "an inability to tolerate criticism", and "entitlement or the expectation of special favors without assuming reciprocal responsibilities" (p. 891).

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This definition covers a constellation of concepts and the NPI sought to measure all of them as aspects of a single personality trait.

In contrast, Ackerman et al. (2011) argue that the NPI is really measuring three different traits. They claim that one of the aspects of narcissism measured by the NPI is leadership ability and that aspect is often associated with positive interpersonal outcomes. The leadership aspects of narcissism were not the focus of this investigation as they are associated with pro-social behavior. On the other hand, they argue that the NPI also includes two other aspects of narcissism that they discovered drive the relationship between narcissism and anti-social behavior. These traits were the focus of this investigation.

Ackerman et al. (2011) labeled the first socially toxic element, “Grandiose Exhibitionism” (GE). This aspect of narcissism includes “self-absorption, vanity, superiority, and exhibitionistic tendencies” (p. 6). People who score high on this aspect of narcissism need to constantly be at the center of attention. They say shocking things and inappropriately self-disclose because they cannot stand to be ignored. They will take any opportunity to promote themselves. Simply gaining the interest and attention of others satisfies them.

Attention is not enough for those who possess the other negative aspect of narcissism labeled, “Entitlement/Exploitativeness” (EE). Ackerman et al. (2011) argue this aspect includes “a sense of deserving respect and a willingness to manipulate and take advantage of others” (p. 6). This tendency goes beyond the need for attention associated with GE as people high in this trait are those who will feel they deserve everything. More importantly, these people do not let the feelings and needs of others impede their goals. Ackerman et al. (2011) found that participants with higher EE scores were increasingly likely to have negative interactions reported by their roommate and their roommate was more likely to be dissatisfied with their relationship.

3. Narcissism and Facebook

Examination of the interpersonal possibilities offered by Facebook as well as the limited extant research suggests several tentative hypotheses about Facebook behaviors and the two aspects of narcissism under investigation. Initially, individuals who are high in GE will want to gain the attention of the widest audience possible (Ackerman et al., 2011). Therefore, they are predicted to have a high friend count given their drive to seek attention from as many people as possible. If they are seeking a wider audience, they are also predicted to accept friend requests from strangers because they would be seeking an audience rather than using Facebook to engage in social interaction with existing friends. They may also attempt to gain the attention of their audience by frequently offering new content. Posting status updates, posting pictures of themselves, and changing their profile are all methods of using Facebook to focus attention on the self. These different aspects of providing content will be labeled self-promotion and as a group they are predicted to be positively associated with GE.

On the other hand, Ackerman et al. (2011) found that EE tended to be associated with anti-social behaviors that indicate that others should cater to the narcissist’s needs without any expectation of reciprocity. In the offline world, people high in EE might expect favors such as time, money, social support, and indications of respect from others. Although time and money might be harder to demand on Facebook, those high in EE should expect social support and respect. Some research suggests that many individuals who gain social support on Facebook feel less stress (Wright et al., 2007). Facebook users who are high in EE would be predicted to demand social support but be unlikely to provide it to others. They feel that others should support them when they are distressed, but they feel no duty to reciprocate.

There are several ways that those high in EE might expect to receive respect from their social network on Facebook. Those high on EE would be likely to use Facebook to determine what others are saying about them. They would be more likely to focus on the status updates from their network for the purpose of determining if their network is speaking as well of them as their inflated sense of self-importance would demand. Some research suggests that when someone high in trait narcissism is slighted, they aggressively retaliate (Bushman & Baumeister, 1998; Twenge & Campbell, 2003). Ackerman et al. (2011) argue that EE is the subscale is the aspect of narcissism most associated with socially disruptive behaviors such as aggression. Therefore, EE is predicted to be associated with responding to negative comments from others with verbally aggressive responses. Finally, if the EE subscale is tapping into a trait that demands respect from others, they would also be predicted to become angry when they do not get the respect they feel they deserve. One way this might be expressed on Facebook would be becoming angry when others do not comment on their status updates. When people post status updates on Facebook, others have the opportunity to indicate agreement or praise their comments. Someone high in EE would become angry when they did not get this attention. These hypotheses were tested using a survey of Facebook users.

4. Method

4.1. Sample

There were 294 participants in the survey whose ages ranged from 18 to 65 years ($M = 23.26$, $SD = 7.30$). Of this sample, 74.1% were college students and 68% were female. The sample was a convenience sample recruited by the members of an undergraduate research methods course in a medium sized Midwestern, American university. They contacted their social network and solicited volunteers to complete the survey. Participations were uncompensated. All participants were Facebook users.

4.2. Procedure

Participants were given a link to the online consent form that described their rights as research participants. If they indicated that they agreed to participate, an online survey appeared. The online survey began with the questions regarding Facebook use, and then they were asked the GE, and EE subscales of the NPI using the items identified by Ackerman et al. (2011). After the NPI subscales was the Rosenberg (1965) self-esteem scale and then basic demographic items.

4.3. Instruments

The items for all the original scales are contained in Appendix A. Table 1 contains means, standard deviations, number of items, and reliability estimates for all of the focal constructs. The first set of items concerned the frequency with which the participants engaged in particular Facebook behaviors on a 6-point scale ranging from “never” to “all the time”. These include the self-promotion behaviors, accepting strangers as friends, and retaliating against mean comments. The participants were next asked the items from Dillard and Shen (2005) felt anger scale by instructing participants to “Please use the following scale to respond to how you feel when people do not comment as much as you would like on your status updates on Facebook”. For each of the four emotions listed (irritated, angry, annoyed, aggravated) they were asked to respond using an 11-point scale ranging from “I feel none of this emotion” to “I feel a great deal of this emotion”. Most of the remaining Facebook

Table 1
Means, standard deviations, scale reliability, and number of items for constructs.

Measure	M	SD	Reliability	Number of items
GE	3.14	2.18	0.83	9
EE	0.89	1.04	0.68	4
Self-esteem	3.16	0.50	0.87	10
Self-promotion	3.23	1.01	0.84	5
Accept strangers' friend requests	1.98	1.34	–	1
Retaliate against mean comments	1.64	1.14	–	1
Seeking support from others	2.71	1.56	0.95	5
Providing support to others	4.21	1.64	0.92	4
Anger at lack of comments	1.43	1.93	0.96	4
Looking to see if others comment about the self	2.85	1.48	0.87	4
Number of friends	652.58	473.36	–	1
Difference between seeking and providing social support	–1.50	1.60	0.87	

questions utilized a 7-point Likert scale ranging from “strongly disagree” to “strongly agree”. The variable representing the difference between the amount of social support they provide and the amount they seek was calculated by subtracting the amount they provide from how much they seek. Finally, the participants were asked how many friends they had on Facebook (range: 12–4655).

In order to determine the construct validity of the new multi-item measures, a confirmatory factor analysis was conducted. AMOS 18.0 was used to estimate the fit of the four factor model containing the items for self-promotion, checking for comments about the self by others, providing social support, and seeking social support. The data were adequately consistent with the model ($CFI = .93$, $RMSEA = .09$).

The participants responded to the items identified by Ackerman et al. (2011) for the two subscales of interest from the NPI. Their scores were calculated by summing the number of narcissism items they chose on the forced-choice NPI items for each subscale. They also responded to the Rosenberg self-esteem scale. The self-esteem scores were calculated by calculating the average score for each participant such that higher scores indicated greater self-esteem. Table 2 contains a correlation matrix of all the measured constructs.

5. Results

5.1. Statistical analysis

Initially, the results concerning self-promotion will be examined. Then the results concerning anti-social behaviors will be

Table 2
Correlation matrix of measured constructs.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. GE														
2. EE	0.36													
3. SE	0.28	–0.09												
4. Self promotion	0.27	0.07	0.04											
5. Number of friends	0.17	–0.01	0.04	0.33										
6. Accept strangers	0.25	0.31	–0.16	0.26	0.21									
7. Seek support	0.14	0.19	–0.22	0.39	0.13	0.28								
8. Provide support	–0.01	–0.03	–0.10	0.33	0.11	0.10	0.50							
9. Difference in social support	0.14	0.21	–0.11	0.03	0.02	0.17	0.46	–0.54						
10. Anger	0.23	0.20	–0.28	0.08	0.02	0.27	0.23	0.06	0.16					
11. Check for comments	0.14	0.30	–0.16	0.21	0.16	0.30	0.31	0.30	–0.01	0.32				
12. Retaliate with mean comments	0.25	0.36	–0.13	0.32	0.17	0.41	0.34	0.10	0.23	0.30	0.38			
13. Sex	–0.13	–0.10	–0.06	0.26	0.06	–0.14	0.03	0.19	–0.17	–0.08	–0.08	–0.04		
14. Age	–0.21	–0.19	–0.02	–0.22	–0.28	–0.13	–0.10	0.02	–0.12	–0.06	–0.19	–0.16	0.06	
15. College student	–0.11	–0.10	–0.04	–0.19	–0.20	–0.04	–0.12	0.03	–0.15	–0.05	–0.13	–0.15	0.01	0.46

Note: Correlations such that $r > .11$ are $p < .05$, $r > .14$ are $p < .05$, and $r > .18$ are $p < .001$. Sex is coded male = 0 and female = 1. College student status is coded non-college students = 0 and college students = 1.

Table 3
Results of regressing GE, EE, and self-esteem on Facebook behavior with standardized beta weights and R^2 values.

Facebook behavior	β				R^2
	GE	EE	SE		
Self promoting behavior	**0.28	–.05	–.03	.07	
Number of FB friends	**0.21	–.09	–.02	.04	
Frequency of accepting stranger as friends	**0.23	**0.21	**–.20	.16	
Retaliate against mean comments	**0.19	**0.28	**–.15	.17	
Seek social support	**0.18	.10	**–.26	.10	
Provide social support	.04	–.06	–.11	.01	
Seek more social support than provide	*.13	*.16	–.14	.07	
See if others are talking about me	.09	**0.26	**–.16	.12	
Get angry at lack of status comments	*.31	.05	*–.36	.18	

* Statistically significant at $p < .05$.

** Statistically significant at $p < .01$.

discussed. All hypotheses were tested by regressing each Facebook behavior onto GE, EE, and self-esteem, with ordinary least squares estimates. Rhodewalt and Morf (1995) argued that including self-esteem in the regression equation controls for the overlap between healthy self-esteem and narcissism. There is conceptually some overlap between self-esteem and narcissism in that GE is driven partially by the narcissist's belief that he or she is due attention because they are such a valuable person. Similarly EE is partially driven by the narcissist's belief that she or he is entitled to anything she or he wants because they perceive themselves to be a valuable person. Regression analysis partials out the healthy parts of self-regard from the unhealthy aspects that drive GE and EE.

5.2. Self-promotion

Recall that it was predicted that GE would be related positively to self-promoting Facebook behaviors that allow one to present an inflated sense of self to as many people as possible. Examination of Table 3 shows the standardized regression coefficients for the regression of the self-promoting Facebook behavior factor on GE, EE, and self-esteem. GE was the only substantial predictor of the self-promoting Facebook behaviors. Also, it was predicted that GE would be associated with a higher friend count as those high in GE would be seeking a large audience to provide attention. GE was again the only substantial predictor of friend count. Finally, GE was predicted to be positively associated with the frequency with which the participants accept strangers as friends to again expand their audience. GE was positively associated with accepting strangers but surprisingly, EE was a substantial predictor as well.

5.3. Anti-social behavior

It was also predicted that EE would be positively related to several anti-social behaviors associated with their sense of entitlement to non-reciprocated social support and positive regard. Examination of Table 3 shows the standardized regression coefficients for the regression of each anti-social Facebook behavior on GE, EE, and self-esteem. The regression models showed that EE was a substantial predictor of retaliating against mean comments, seeking more social support than one provides, and checking Facebook to see what others are saying about one. These relationships are consistent with the predicted pattern of a positive association between EE and anti-social behavior. On the other hand, EE did not predict getting angry when people do not comment on one's status. This latter finding was inconsistent with the hypothesis. In general, the data were consistent with the expectation that EE would be associated with behaviors that demonstrated a focus on one's own needs without regard for those of others.

There were also unexpected relationships between GE and anti-social behaviors. In particular, GE was substantially associated with an increased likelihood of retaliating against mean comments about oneself, though the relationship was weaker than the relationship of this behavior with EE. Additionally, GE was predictive of seeking more social support than one provides. Surprisingly, although EE was not a substantial predictor of getting angry about the lack of comments on one's status by others, GE was positively associated with this response.

5.4. Self-esteem

Although self-esteem was not the focus of this investigation, self-esteem tended to be negatively predictive of some of the same behaviors that the two narcissism scales were positively related to. Examination of Table 3 show that self-esteem was not substantially related to the self-promotion behaviors. On the other hand, it was negatively predictive of many of the anti-social behaviors.

6. Discussion

This study sought to test the prediction that the two socially disruptive elements of narcissism would each predict a particular pattern of Facebook behaviors. Grandiose exhibitionism was predicted to be related to Facebook behaviors that afforded extensive self-presentation to as large an audience as possible via status updates, photos, and attaining large numbers of friends. Entitlement/exhibitionism was predicted to be related to anti-social behaviors such as retaliating against negative comments about oneself, reading others' status updates to see if they are talking about oneself, and seeking more social support than one provides. With few exceptions, the data were consistent with these hypotheses. Additionally, in some cases, self-esteem was negatively related to these narcissistic Facebook behaviors.

The anti-social behaviors were predicted to be primarily associated with EE but both aspects of narcissism were predictive of some of these behaviors. Both subscales were related positively to retaliating against mean comments as well as seeking more social support than one provides. Despite EE being identified as the more socially disruptive aspect of narcissism (Ackerman et al., 2011), only GE was related to angry responses to perceived social neglect. Perhaps this finding occurred because people who are seeking attention are more likely to be angered about not getting attention paid to their status updates. This finding suggests that in particular cases, it is GE, not EE that is the more strongly anti-social aspect of narcissism. Both GE and EE were associated with angrily retaliating against negative comments about the self.

In general, the relationships with both of these two narcissism subscales is consistent with previous research finding that narcissism is negatively predictive of communal orientations to social interaction (Bradlee & Emmons, 1992) and positively predictive of interpersonal deviance (Ackerman et al., 2011).

This study also provided some support for Ackerman et al.'s (2011) contention that these two subscales of the NPI are measuring different constructs. The differential pattern of relationships with the self-promotional behaviors shows that the nomological network of each subscale differs in substantial ways from the other. On the other hand there were several cases in which both subscales were related in the same way to some of the anti-social Facebook behaviors. These findings suggest that although EE does not tap into the desire to self-promote, GE may include some of the aspects of entitlement that Ackerman et al. (2011) predicted would be more associated with the EE trait. Future researchers examining narcissism would be advised to consider each subscale of the NPI both separately and as a whole to further examine the factor structure of the NPI.

7. Limitations

The generalizability of the findings in this study is limited because the sample was not representative. Although it was not composed entirely of college students, about three fourths of the participants were college students. Given that Facebook is reaching all over the world and across all demographics (Ahmad, 2011) it is important to replicate this study with a broader sample in order to determine if these relationships can be found with other groups. Perhaps in other cultures, narcissism expresses differently on Facebook.

Additionally, the relationships uncovered in this study may have been inflated by several sources of method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). It is possible that a consistency motif was operating to inflate the relationship among the Facebook behaviors. Item context effects may also have caused some participants to interpret the NPI items based on their Facebook behavior and hypothesis guessing may have encouraged some participants to intentionally inflate those relationships. Additional research should measure individuals' NPI scores and then have independent coders record many of the Facebook behaviors measured in this study by examining the participants' Facebook accounts.

8. Future research

More research is needed on socially disruptive Facebook communication. Additional socially disruptive communication patterns should be uncovered and examined. Furthermore, the effects of anti-social behavior on other users is an important and untapped area of research. In general, the "dark side" of Facebook (DeAndrea et al., 2011) requires more research in order to better understand Facebook's socially beneficial and harmful aspects in order to enhance the former and curtail the latter.

9. Conclusion

Given the explosion in Facebook's popularity (Ahmad, 2011), this article took a significant first step towards identifying the kinds of people who may create a socially disruptive atmosphere on Facebook. If Facebook is to be a place where people go to repair their damaged ego (Toma & Hancock, 2011) and seek social support (Wright et al., 2007) it is vitally important to discover the potentially negative communication one might find on Facebook and the kinds of people likely to engage in them. Ideally, people will engage in pro-social Facebooking rather than anti-social mebooking.

Appendix A

Self-promotion questions

- How often do you post status updates to Facebook?
- How often do you post photographs of yourself on Facebook?
- How often do you update your profile information on Facebook?
- How often do you change your profile picture on Facebook?
- How often do you tag pictures of yourself on Facebook?

Accept friend requests from strangers

- How often do you accept a friend request from a total stranger on Facebook (assuming they do not appear to be a fake profile)?

Retaliate against negative comments

- How often do you make mean comments on someone's status if they said something negative about you on Facebook?

Checking for comments about the self

- I use Facebook to see what people are saying about me.
- I like to read my Facebook newsfeed to see if my friends have mentioned me.
- It is important to me to know if anyone is saying anything bad about me on Facebook.
- I usually know what people are saying about me on Facebook.

Offer social support

- I use Facebook to offer emotional support to people I know when they are feeling upset about something.
- If I see someone post a Facebook status update that indicates they are upset, I try to post a comforting comment on their status.
- It is important to me to try to cheer up my friends by commenting on their Facebook status updates when it appears that they feel distressed.
- I try to make people feel better by commenting on their Facebook status when I can tell they are having a bad day.

Seek self support

- Whenever I am upset I usually post a status update about what is bothering me.
- If something made me sad, I usually post a comment about it on Facebook.
- Posting a status update to Facebook is a good way to vent when something is bugging me.
- If I post a Facebook status update about something that is bothering me, it makes me feel better.

I use Facebook to let people know that I am upset about something.

Number of friends

How many friends do you have on Facebook (total number of people in your "Friends")?

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