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When social media isn't social: Friends' responsiveness to narcissists on Facebook

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ABSTRACT

Narcissists are characterized by a desire to show off and to obtain external validation from others. Research has shown that narcissists are particularly attracted to Facebook, because it allows them to self-promote. But do they receive the attention they crave on Facebook? This study examined Friends' responsiveness (operationalized as number of comments and "likes") to Facebook users' status updates, as a function of the latter's narcissism. Undergraduates ($N = 155$) filled out a narcissism scale and offered us access to their profiles, from which we extracted indicators of Friends' responsiveness. Results show that individuals high in narcissism were less likely to receive comments and "likes" in response to their status updates than individuals low in narcissism. This effect was driven by exploitativeness and entitlement, two components of narcissism. The findings extend understanding of narcissists' social interactions, an understudied topic, and elucidate some of the psychological factors that drive Facebook interaction.

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1. Introduction

Narcissism is a dynamic system of self-regulatory processes, whereby individuals with grandiose, yet vulnerable self-concepts engage in frequent attempts to solicit attention and affirmation from those around them (Morf & Rhodewalt, 2001). Narcissists demonstrate a preoccupation with the self, a surfeit of self-love, and a lack of empathy (Raskin & Hall, 1979). Given these socially undesirable tendencies, it is important to understand what kind of personal relationships narcissists are able to foster. Research shows that narcissists exhibit superficial charm and are successful in attracting attention and admiration, particularly when interacting with strangers (e.g., Holtzman & Strube, 2010). However, they have difficulty cultivating deep friendships, because they seek detached admiration rather than intimacy from relational partners (Campbell, 1999). While this body of research has yielded crucial insights into narcissists' social interactions, it has relied primarily on surveys (e.g., Campbell & Foster, 2002) and laboratory experiments, where narcissists interact with strangers (e.g., Barry, Chaplin, & Grafeman, 2006). One important avenue for extending this research is to observe the behavior of narcissists and of their

relationship partners in naturalistic settings, in order to increase generalizability and offset self-report biases.

Social network sites (SNSs) are one venue where behavior and interactions can be directly observed. These sites are frequently described as a haven for narcissists, because they invite users to post self-focused content (e.g., photographs, status updates) and supply a large audience of family, friends, and acquaintances to which this content can be broadcast (Twenge, 2013). Research corroborates that narcissists find SNSs appealing (Ryan & Xenos, 2011) and that they use them with the intention to elicit attention from the audience (Bergman, Fearrington, Davenport, & Bergman, 2011). However, it is unclear whether narcissists are successful in garnering this attention. Previous research has focused on how narcissists behave on social media without examining the responses they receive from their social networks (e.g., Carpenter, 2012; McKinney, Kelly, & Duran, 2012; Ong et al., 2011; Skues, Williams, & Wise, 2012). Since social media is interactive, we argue that this is an important area of research and we undertake it in the present study. We focus on Facebook, currently the world's most widely used SNS.

Our study attempts to develop the literature in three respects. First, we explore narcissists' social interactions in an ecologically valid and previously unexamined venue: Facebook. Second, we inquire whether Facebook does indeed allow narcissists to get the attention they crave. Lastly, we take a granular approach to

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the construct of narcissism, by investigating whether the above-mentioned effects of narcissism are driven by some of its components (i.e., entitlement, exploitativeness).

2. Literature review

2.1. Narcissism and social interaction

In their everyday social interactions, narcissists think of other people as a means for regulating their own moods and internal states, rather than being interested in making genuine connections (Campbell, Foster, & Finkel, 2002). Narcissists' instrumental use of interpersonal interactions manifests itself as frequent solicitations of others' opinions of themselves (Morf & Rhodewalt, 2001) and seeking validation and admiration from others (Campbell, 1999). Therefore, communication is a way for narcissists to obtain the external validation they need to quell feelings of self-doubt.

Interaction partners find narcissists to be more socially attractive than non-narcissists, at least initially (Paulhus, 1998). These positive responses tend to dissipate over time, as narcissists' incessant self-promotion and lack of empathy becomes apparent (e.g., Campbell & Foster, 2002; Paulhus, 1998). One laboratory experiment shows that unacquainted strangers perceived narcissists as less agreeable the more they interacted with them, suggesting that narcissists' extraverted behavior and engaging self-presentation achieved the desired goal of external validation only at first, but not over time (Paulhus, 1998).

Thus far, few studies have tested narcissists' real-world interactions. In one notable exception, researchers equipped participants with audio recorders as they went about their daily lives for four days (Holtzman, Vazire, & Mehl, 2010). Linguistic analyses of randomly recorded conversations indicated that narcissists tended to be more outgoing, yet engaged in more disagreeable behaviors, such as arguing with others, expressing anger and using foul language, than non-narcissists.

We now turn our attention to Facebook, an ideal venue for capturing narcissists' in-vivo interaction patterns with friends, family, and acquaintances. Are narcissists able to attract a chorus of attention and support from their Facebook audience? Is this one of the reasons they find Facebook appealing?

2.2. Narcissism and Friends' responsiveness on Facebook¹

Indeed, narcissists' propensity to use Facebook is well-documented. Individuals high in narcissism spend more time on Facebook and check their pages more often on a typical day than those low in narcissism (Mehdizadeh, 2010; Panek, Nardis, & Konrath, 2013). Facebook users have also been shown to score significantly higher in narcissism than non-users (Ryan & Xenos, 2011).

One explanation for narcissists' attraction toward SNSs has centered on these sites' ability to support their need for self-promotion. SNSs allow users to publicize their thoughts and to accumulate friends, behaviors ideal for self-aggrandizing. Indeed, narcissists contribute more status updates, comments, and photos to their profiles than non-narcissists (Buffardi & Campbell, 2008; Panek et al., 2013; Ryan & Xenos, 2011).

While profile postings are a means of self-expression, they also serve the purpose of attracting attention and coaxing the audience into engagement (Forest & Wood, 2012). Facebook is fundamentally a social space, where users are explicitly motivated to engage with one another (Joinson, 2008). Audience engagement on Facebook can be denoted by two important indicators: comments that

Friends write in response to a user's status updates, and "likes" (i.e., one-click signals of support), which Friends can similarly add to a user's postings. SNSs therefore create a norm whereby the frequency with which feedback is offered on a given post can be understood as having successfully gained attention from other users (see also Ellison, Vitak, Gray, & Lampe, 2014).

The Facebook algorithm ensures that Facebook users who post frequently are more likely to show up in Friends' newsfeed, which positions them well for attracting feedback from these Friends (Bucher, 2012). Indeed, according to a Pew Research Center report (Hampton, Goulet, Marlow, & Rainie, 2012), those who post more status updates receive more emotional support from Facebook friends. In addition, frequent positive Facebook updates have been shown to invite more "likes" and comments from Facebook friends (Forest & Wood, 2012). Considering that individuals tend to engage in impression management and self-promotional behaviors on Facebook (Rosenberg & Egbert, 2011; Zhao, Grasmuck, & Martin, 2008), we expect that typical status updates are self-promotional and positive. Hence, we posit the following hypothesis:

H1: the number of status updates a Facebook user posts will be positively related to the number of (a) comments and (b) "likes" received from Friends.

The crucial question is whether narcissists' status updates gain more or less attention from Friends than non-narcissists'. Based on existing research demonstrating interaction partners' unfavorable opinions of narcissists after recurring interactions (Paulhus, 1998), we predict that narcissists' postings will not be met with enthusiasm from Friends, who may find their incessant self-promotion tedious or irritating. This lack of enthusiasm should manifest itself through distancing behaviors, with Friends decreasing their offering of comments and "likes" in response to narcissists' postings, rather than throughout right criticism. Indeed, research suggests that when users choose to engage with one another on Facebook, they do so in a validating and supportive way (Toma, 2013; Toma & Hancock, 2013). Hence, we expect that narcissists' efforts of attracting attention will be met with distancing behaviors:

H2: the positive relationship between the number of status updates and the number of (a) comments and (b) "likes" received from Friends will be weaker for posters with higher levels of narcissism.

2.3. The role of components of narcissism: entitlement and exploitativeness

Recent research has argued that an important avenue for theoretical development is to take a fine-grained approach to the construct of narcissism, because certain narcissism effects may actually be driven by its components (Ackerman et al., 2011). Indeed, narcissism is thought of as multi-dimensional, with several discrete components reflecting both healthy (i.e., self-sufficiency, authoritative) and unhealthy behaviors (i.e., entitlement, exhibitionism) (e.g., Raskin & Terry, 1988). Research pinpoints to entitlement (i.e., believing that one deserves the best) and exploitativeness (i.e., taking advantage of others) as two components that are "more interpersonally disruptive" than the others (Reidy, Zeichner, Foster, & Martinez, 2008, p. 866). Those who score high in exploitativeness have been shown to control and take advantage of others (Konrath, Corneille, Bushman, & Luminet, 2013), see relational partners as a way to achieve objectives, and foster non-reciprocal social interactions (Raskin & Novacek, 1989; Raskin & Terry, 1988). Therefore, entitled and exploitative individuals may be particularly apt to drive relational partners away. On

¹ Following Ellison and Boyd's (2013) suggestion, we refer to Facebook connections as Friends.

Facebook, they should therefore elicit distancing behaviors from Friends:

H3: the positive relationship between the number of status updates and number of (a) comments and (b) “likes” received from Friends becomes weaker for posters with higher levels of entitlement.

H4: the positive relationship between the number of status updates and number of (a) comments and (b) “likes” received from Friends becomes weaker for posters with higher levels of exploitativeness.

3. Methods

3.1. Participants and procedure

Participants were undergraduates at the University of Wisconsin-Madison and were compensated with credit in their Communication courses. They completed the study entirely online, during two stages. First, they filled out questionnaires about their trait narcissism, demographics, and self-reported Facebook use. Then, they were asked via email to temporarily friend the research team on Facebook, without any privacy restrictions, so we may access their profile content. Out of the 300 participants contacted, only those who agreed to friend us on Facebook were included in the study ($N = 155$). There were no differences between those who agreed to friend us and those who did not in terms of narcissism, $t(299) = -1.19$, *ns*, amount of self-reported Facebook use, $t(299) = 0.03$, *ns*, age, $t(299) = -.60$, *ns*, and gender, $\chi^2(1) = 2.43$, *ns*.

3.2. Self-reported measures

Narcissism was measured using the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), a well-validated instrument. Good validity was achieved ($\alpha = .83$), and an overall narcissism score was computed for each participant. The NPI has seven subscales, including exploitativeness (5 items, $\alpha = .47$) and entitlement (6 items, $\alpha = .55$), for which separate scores were computed. For the sake of comprehensiveness, scores for the remaining subscales were also computed: authority (8 items, $\alpha = .74$), superiority (5 items, $\alpha = .53$), exhibitionism (7 items, $\alpha = .63$), vanity (3 items, $\alpha = .59$) and self-sufficiency (6 items, $\alpha = .34$). The reliabilities of the subscales, while low, are consistent with published research (e.g., Ackerman et al., 2011; Panek et al., 2013; Raskin & Terry, 1988).

The following covariates were also measured: age, gender, number of Friends, and intensity of Facebook use. The latter was measured using Ellison, Steinfield, and Lampe (2007) well-validated scale (6 items, $\alpha = .82$).

3.3. Objective measures

Participants' profiles were downloaded on a lab computer. A team of trained research assistants then identified the portion of the Facebook timeline that captured users' activity during the two weeks prior to the beginning of the study. For this time period, the research assistants recorded (1) the total number of status updates posted by participants; and (2) the total number of comments and (3) “likes” they received from Friends (see Table 1 for descriptive statistics).

4. Results

All the hypotheses were tested using multiple regression models, which included the number of comments or “likes,” respec-

Table 1

Means and standard deviations for all the continuous variables used in the analyses.

	M	SD
Age	20.52	1.26
Number of Facebook friends	712.79	428.39
Intensity of Facebook use	3.48	.78
Number of status updates	6.49	9.47
Number of comments	6.30	14.66
Number of “likes”	18.91	27.77
NPI	16.46	6.68

tively, as the dependent variable; the hypothesized variables of interest as the independent variable(s); and all the covariates.² With one exception noted below, none of the covariates were significant in any of the models. For all the regression models, indicators of model fit, standardized coefficients for the independent variables, and associated *p*-values are summarized in Table 2.

H1 predicted that the number of status updates individuals post will be positively related to the number of (a) comments and (b) “likes” received from Friends. Status updates was entered as the independent variable in a regression model with number of comments received from Friends as the dependent variable, and then in a separate regression model with number of “likes” received as the dependent variable. The number of status updates posted was positively related to both number of comments and “likes,” providing support to H1_{a–b}. Among the covariates, only the number of Facebook friends ($\beta = .17$, $p < .05$) was significantly associated with the number of “likes” received, suggesting that those who had more Facebook friends were more likely to receive “likes.”

H2 predicted that the relationship between status updates and number of (a) comments and (b) “likes” received from Friends would be moderated by Facebook posters' narcissism. In the regression models described earlier, number of status updates, posters' overall narcissism scores and the interaction between the two were entered as independent variables. The results reveal a significant moderating effect of narcissism on the relationship between the number of status updates and the number of comments received from Friends. That is, the positive relationship between number of status updates and number of comments received was weaker for posters with higher levels of narcissism, supporting H2a (see Fig. 1 for the illustration of the interaction). However, narcissism did not significantly moderate the relationship between the number of status updates posted and number of “likes” received, failing to support H2b (see Fig. 2).

H3 predicted that the positive relationship between the number of status updates and the number of (a) comments and (b) “likes” received from Friends would be weaker for posters with higher levels of entitlement. In the multiple regression models, the number of status updates, posters' entitlement score, and the interaction between the two were entered as independent variables. Results show that entitlement significantly moderated the relationship between the number of status updates posted and the number of comments received, providing support to H3a. However, entitlement did not moderate the relationship between the number of status updates posted and number of “likes” received, failing to support H3b.

H4 predicted that exploitativeness would also have a moderating effect on the positive relationship between the number of status updates posted and the number of (a) comments and (b) “likes” received. In the multiple regression models, the number of status updates, posters' exploitativeness score, and the interaction

² We tested whether multicollinearity presents in each of the models by estimating variance inflation factors (VIF). VIFs of less than 10 are considered indicative of inconsequential collinearity (Menard, 1995; Neter, Wasserman, & Kutner, 1989). All VIFs in our models were less than 10, suggesting there is no serious multicollinearity issue.

Table 2
Multiple regression models predicting the number of comments and the number of “likes” received from Friends, respectively. Standardized regression coefficients are reported after controlling for all covariates.

	DV:	Number of comments		Number of “likes”	
		β	R^2	β	R^2
Model 1	SU	.64***	.38	.60***	.48
Model 2	SU	.98***	.40	.69**	.49
	NPI	.07		-.08	
	SU \times NPI	-.44*		-.05	
Model 3	SU	.93***	.48	.63**	.48
	Entitlement	.11		-.04	
	SU \times entitlement	-.50***		-.02	
Model 4	SU	.93***	.42	.90***	.51
	Exploitativeness	.14		.02	
	SU \times exploitativeness	-.43**		-.33**	

Note: SU = the number of status updates posted by the profile owner.

* $p < .05$, ** $p < .01$, *** $p < .001$.

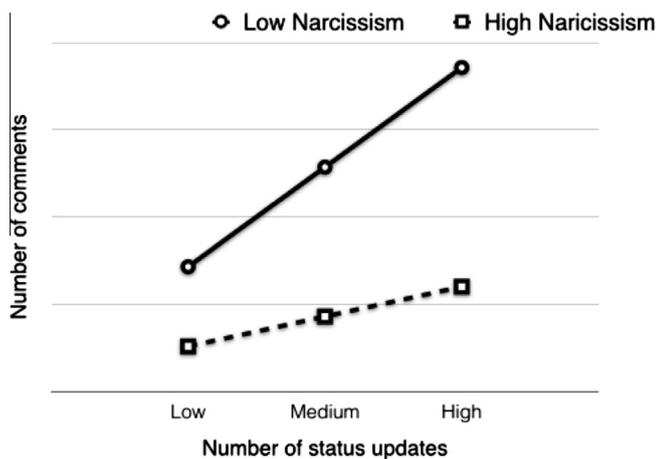


Fig. 1. Visual representation of NPI as the moderator of the relationship between the number of status updates and the number of Friends’ comments.

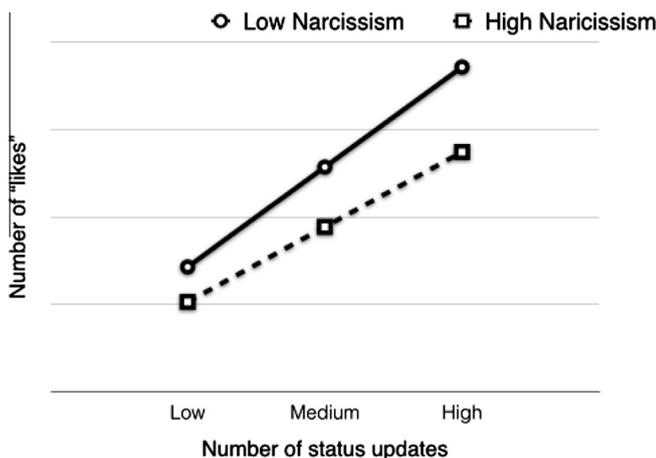


Fig. 2. Visual representation of NPI as the moderator of the relationship between the number of status updates and the number of “likes”.

between the two were entered as independent variables. Results show that exploitativeness significantly moderated the relationship between the number of status updates posted and the number comments received from Friends, supporting H4a. Similarly, exploitativeness moderated the relationship between the number of status updates posted and the number of “likes,” supporting H4b.

In order to clarify whether entitlement and exploitativeness were the only components of narcissism that affected Friends’ responsiveness, we also tested the potential moderating effect of

the remaining components. We used the same regression procedure outlined earlier, for each of the remaining components. No significant moderating effects emerged, suggesting that entitlement and exploitativeness were the only components of narcissism that affected Friends’ responsiveness to posters’ status updates on Facebook.

5. Discussion

This study sought to examine how receptive Friends are to narcissists’ activity on Facebook. Based on research explicating narcissists’ inability to maintain close relationships, we hypothesized that individuals scoring high in narcissism, particularly the more interpersonally disruptive components of narcissism (i.e., entitlement and exploitativeness), would receive fewer responses from Friends. We found that, by and large, individuals high in narcissism received fewer responses as they posted more status updates compared to those low in narcissism, an effect largely driven by entitlement and exploitativeness. The other components of narcissism were not associated with Friends’ responsiveness, suggesting that posts by individuals high in the healthier components of narcissism (e.g., authority and sufficiency) did not discourage other users from interacting with them. It is important to note that while the number of comments received from Friends decreased for those high in overall narcissism, entitlement, and exploitativeness, the number of “likes” received decreased only for those high in exploitativeness. “Likes” are easier to bestow and reflect less engagement than writing comments. Therefore, Facebook friends may offer them with less discernment, with one exception: for exploitative posters. Indeed, exploitativeness has been identified as the most socially unpleasant component of narcissism. Friends may avoid giving exploitative posters even simple “likes.”

These findings advance understanding of narcissists’ everyday interactions with their social networks in an ecologically valid setting, and offer insight into the psychological factors that drive social interaction on Facebook. These theoretical contributions are discussed below.

5.1. Narcissism and social interaction

Examining Facebook friends’ responsiveness offers a unique opportunity to extend prior research to an ecologically valid setting, where the behaviors of narcissists’ relational partners can be directly observed. To our knowledge, only one other study has examined narcissists’ social interaction as it happens in the real world (Holtzman et al., 2010). A clear picture emerged from our research, suggesting that relational partners reduce their engagement with narcissists by decreasing commenting and “liking” on

Facebook posts. This bolsters claims by prior research that narcissists' interpersonal charm wears off over time, and that they may be unable to sustain long-term relationships. However, it is important to note that Facebook friends include an amalgam of close friends, family members, and acquaintances (Manago, Taylor, & Greenfield, 2012). While our research demonstrates a general trend for disengagement, future research should examine whether members of all these relational categories disengage in a similar fashion.

By the same token, we must acknowledge that social interaction on Facebook, while it occurs outside the lab, is not identical to face-to-face social interaction. One important Facebook affordance is that it allows for messages to be sent simultaneously to large audiences (unlike dyadic face-to-face communication). Because of the non-directedness of many Facebook posts, Friends can ignore them without violating politeness norms. Future research should examine to what extent face-to-face communicators engage in distancing behaviors towards narcissists, and what these distancing behaviors may be.

Despite these differences between Facebook and face-to-face communication, our findings contribute evidence to an increasingly clear picture of how narcissists interact with relational partners: they seek attention, they may be charming initially, but are unable to garner attention in interactions that are sustained over time.

The findings also add to the further specification of how the components of narcissism relate to social interaction. It is evident that narcissistic thoughts and behaviors are not all equally maladaptive. Our findings suggest that entitlement and exploitativeness are likely to drive relational partners away on Facebook, while the other components of narcissists are not, and that future research may find it fruitful to deconstruct narcissism into its individual components. However, we cannot conclude whether Friends' distancing behaviors towards entitled and exploitative individuals are the result of the latter's poor impression management skills on Facebook, or of their off-putting offline behaviors. Future research should address this topic.

5.2. Facebook and narcissism

Ample research has shown that narcissists gravitate towards SNSs because these sites enable them to engage in self-promotion. But self-promotion is only one of narcissists' social needs. Additionally, they have a fundamental need for receiving attention and validation from their social networks. Our findings show that these latter needs are not met on Facebook. Therefore, the ability to engage in self-promotion alone may explain the gravitational pull exercised by SNSs on narcissists.

The present findings also advance understanding of the psychological factors that drive Facebook use. Previous research has shown that Facebook use is shaped by users' personality traits,

such as extraversion (Moore & McElroy, 2012), shyness (Orr et al., 2009), and self-esteem (Mehdizadeh, 2010). The present study introduces the idea that it is not just users' own personality traits that shape how they engage socially on these sites, but also their Friends' personality traits. Future research can take this approach further by examining how Friends' personality traits beyond narcissism affect social engagement.

Finally, the findings have implications for research on Facebook and social capital. Ellison and colleagues (2014) provide evidence that interactions among users are integral to the process of cultivating social capital via SNSs: the greater the frequency of interactions, the greater the social capital acquired. In the absence of interaction, this benefit of SNS use may be lacking. Our study is among the first to identify personality traits associated with decreased user interaction on Facebook, thus highlighting the usefulness of considering how individual differences affect the acquisition of social capital on Facebook.

5.3. Limitations and additional directions for future research

Our research does not directly assess Facebook users' motivations, regardless of whether they were posting status updates or responding to them. Thus, it is unclear whether Friends perceived narcissists' posts to be unworthy of a response or irritating (e.g., displaying excessive self-promotion or complaints). Future studies should examine the content of narcissists' status updates, Friends' reasoning for responding or failing to respond to them, as well as the content of Friends' responses to narcissists.

We also acknowledge that the reliabilities of the entitlement and exploitativeness subscales are low, although they are consistent with prior studies. As such, they may diminish the observed associations with the outcome variables. A possible explanation for these low reliabilities is a small number of items in each subscale (Ackerman et al., 2011; Raskin & Terry, 1988). Future research should also replicate the current findings with other measures and other populations in order to compensate for this psychometric shortcoming and increase generalizability.

6. Conclusion

Although SNSs are often characterized as technologies of the self, they are also tools for forming and strengthening interpersonal bonds. Our study demonstrates the utility of investigating how individual differences, specifically narcissism, affect interpersonal connectivity on these technological platforms.

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Appendix A

Pearson correlation matrix of the variables used in the analyses.

	1	2	3	4	5	6	7	8	9	10
1 Age	–									
2 Gender (male = 1)	.07	–								
3 Intensity of Facebook use	–.05	.11	–							
4 Number of Facebook friends	–.15	.01	.29**	–						
5 Number of status updates	–.10	.07	.13	.04	–					
6 Number of comments	–.11	.09	.07	.12	.60**	–				

(continued on next page)

Appendix A (continued)

	1	2	3	4	5	6	7	8	9	10
7 Number of “likes”	-.18*	.05	.18*	.19*	.66**	.52**	–			
8 NPI	-.08	-.15	.23**	.19*	.09	.04	.02	–		
9 Exploitativeness	-.03	-.15	.24**	.14	.00	-.00	-.05	.61**	–	
10 Entitlement	-.08	-.13	.14	.01	.08	-.05	.03	.62**	.28**	–

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix B

DV	Number of comments		Number of “likes”	
	β	R^2	β	R^2
Predictors				
SU	.67**		.83***	
Authority	.00	.36	.03	.44
SU \times authority	-.07		-.18	
SU	.49***		.69***	
Superiority	-.00	.37	-.05	.44
SU \times superiority	.13		-.03	
SU	.69***		.61***	
Exhibitionism	.12	.38	.03	.43
SU \times exhibitionism	-.15		.06	
SU	.75***		.66***	
Vanity	.08	.38	-.09	.44
SU \times vanity	-.21		.01	

Note: SU = the number of status updates posted by the profile owner. The self-sufficiency subscale (6 items, $\alpha = .34$) is deleted due to low reliability. * $p < .05$, ** $p < .01$, *** $p < .001$.

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