



Narcissism and implicit attention seeking: Evidence from linguistic analyses of social networking and online presentation

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ABSTRACT

Two studies examined how narcissism, a personality trait marked by self-promotion, vanity, and grandiosity, related to how people communicate information about themselves online. We predicted that narcissists communicate in ways that draw attention to themselves. Specifically, we predicted that narcissistic people who used relatively few first-person singular pronouns (e.g., “I,” and “me”) would display more self-promoting and sexy images of themselves on their Facebook.com profile pages (Study 1) and would use more profane and aggressive words in an online self-descriptive task (Study 2). Both studies supported this hypothesis. Implications for narcissism and online communication research are discussed.

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Each day, people have the capacity to communicate with others through internet connections. With the advent and growing popularity of social networking websites such as Facebook.com and MySpace.com, people can rapidly share information about themselves with hundreds, if not thousands, of others. The prevalence of online communication has even seeped into modern vernacular, with people saying that they will “Facebook” their friends or that they will “blog” about their recent vacation. What is less clear, however, is how the words people use to describe themselves online offer a window into motivationally relevant ways personality expresses itself on the World Wide Web. The current research examined how narcissism, a personality trait marked by self-promotion, vanity, and grandiosity, relates to how people communicate information about themselves online.

We expected that narcissists communicate in ways that draw attention to themselves. Specifically, we predicted that narcissistic people who used relatively few first-person singular pronouns would display more self-promoting and sexy images of themselves on their Facebook.com profiles (Study 1) and would use more profane and aggressive words in an online self-descriptive task (Study 2). We turn now to formulate our hypotheses.

1. Narcissism in virtual and non-virtual environments

Narcissism refers to an inflated and grandiose self-concept. Narcissistic people have elevated levels of agentic traits such as intelligence, power, and dominance (e.g., Brown & Zeigler-Hill, 2004; Campbell, Rudich, & Sedikides, 2002). In terms of the five-factor model (FFM), narcissists score highly on extraversion and low on agreeableness (Miller & Campbell, 2008). Sub-clinical narcissists have good mental health, which is due in part to their high levels of self-esteem (Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). The link between narcissism and agentic feelings is deeply ingrained. On both explicit and implicit measures, narcissists endorse elevated levels of agency (Campbell, Bosson, Goheen, Lakey, & Kernis, 2007; Campbell, Rudich, & Sedikides, 2002).

Within the context of interpersonal relationships, narcissists use their relationship partners as a means of regulating their positive self-views. This can take the form of selecting attractive romantic partners who can increase positive perceptions of the self (Campbell, 1999), or performing well on difficult tasks when doing so is linked to gaining public admiration (Wallace & Baumeister, 2002). Narcissists are also especially adept at attracting relationship partners. At early stages of relationship formation, they are interesting, exciting, confident, and entertaining (Foster, Shrira, & Campbell, 2006; Oltmanns, Friedman, Fiedler, & Turkheimer, 2004). As their relationships progress, however, narcissists show less warmth and care for relationship partners, engage in game

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playing and infidelity, and are liked less by their partners compared to people low in narcissism (e.g., Campbell, Foster, & Finkel, 2002; Schmitt & Buss, 2001).

A recent study of narcissism in social networking profile pages dovetailed nicely with previous findings investigating narcissism in non-virtual environments (Buffardi & Campbell, 2008). On Facebook.com profile web pages, narcissism related to higher levels of social activity and greater self-promoting themes in posted content. There was agreement between independent observers' ratings of how narcissistic web page owners were and how narcissistic web page owners rated themselves. Thus, narcissism manifests itself similarly in virtual and non-virtual environments.

2. Narcissists' word use and esteem regulation

Narcissists use a number of different routes to boost their self-esteem and, thereby, maintain an overly positive and inflated sense of self. Important to the present research, one method by which narcissists regulate their esteem is through communication patterns. Narcissists brag about their accomplishments in conversation (Buss & Chiodo, 1991) and use more first-person singular pronouns during impromptu monologues (Raskin & Shaw, 1988). First-person pronoun use is one particularly useful variable to examine with respect to narcissism because pronouns offer rich information regarding how people relate to others, especially how people distinguish themselves from others. Thus, using first-person singular pronouns is one means by which narcissists draw attention to themselves.

Narcissists' word use on the internet is one focus of this research. A growing body of research has shown that word use can provide an invaluable means of assessing cognitive, emotional, and behavioral processes (Pennebaker, Mehl, & Niederhoffer, 2003). Like Raskin and Shaw (1988), we use the quantity of first-person singular pronouns used as a proxy for psychological self-importance to examine how narcissists who have used relatively few words that relate to themselves communicate in virtual environments.

3. Narcissism and implicit compensation

A crucial component of narcissism is the need to be the center of attention because doing so fulfills narcissists' goal of being agentic. When attention to the self is not forthcoming, narcissists may engage in compensatory actions to direct attention toward the self (Buss & Chiodo, 1991). The current research seeks to show that narcissists engage in behaviors online to draw attention to themselves when they have used relatively few words about themselves. Although narcissists use language to direct attention to the self more than non-narcissists (Raskin & Shaw, 1988), they may occasionally use relatively few first-person pronouns if doing so can gain them liking, status, and admiration from others. This would enable narcissists to fulfill their goal of appearing agentic (Brown & Zeigler-Hill, 2004; Campbell, Rudich, and Sedikides, 2002). Yet, because the need for narcissists to draw attention to the self is deeply ingrained in their psyche, narcissists may not be consciously aware of this implicit compensation process that occurs when they use relatively few words about themselves.

Thus, we predicted an interaction between narcissism and the number of first-person singular pronouns participants used in predicting responses that may draw attention to the self. When narcissists use relatively few first-person singular pronouns, they may seek to draw attention to themselves. In contrast, when narcissists use a larger number of first-person singular pronouns, they should not engage in responses that may result in them receiving additional attention. Because our conceptual framework suggests that

responses depend on the combination of narcissism and the number of first-person singular pronouns used, we did not expect to observe reliable main effects for narcissism or first-person singular pronoun usage.

4. Present research

In the present studies, we predicted that narcissists would display a compensatory pattern through other routes. Specifically, when they did not draw attention to themselves by using first-person singular pronouns, we hypothesized that they would compensate by posting photographs and using language that would draw attention to themselves. The current research tested this hypothesis in two studies. In Study 1, we harvested information from undergraduate Facebook.com profile pages and examined whether narcissistic profile owners displayed a self-promoting and sexy photo of themselves when they had used low levels of first-person singular pronouns to describe themselves online. Study 2 extended this research to a large sample of adults who completed a measure of narcissism and a self-description task on the internet.

4.1. Study 1: Implicit compensation in Facebook profiles

Study 1 provided an initial test of the hypothesis that narcissistic people compensate for using relatively few words related to themselves by engaging in actions that may draw attention to themselves. Participants were owners of Facebook.com profile pages, which contained a section in which participants described themselves and uploaded a picture of themselves to be displayed to members of their social network. We expected narcissistic participants to display a self-promoting and sexy picture of themselves, but only when they had not used many first-person singular pronouns when describing themselves to others.

5. Method

5.1. Participants

Eighty¹ undergraduate Facebook.com owners (55 women, 25 men; age: $M = 18.89$ ($SD = 1.03$)) participated in exchange for partial course credit. All participants gave consent to have their Facebook.com pages to be used in the present research.

5.2. Materials and procedure

Owner participants arrived at the laboratory individually and then completed the narcissistic personality inventory (NPI; Raskin & Terry, 1988). The NPI had high internal reliability ($\alpha = .78$; $M = 17.76$, $SD = 6.02$, range: 5–30) and responses were summed to form a composite measure of narcissistic personality.

Next, participants logged onto Facebook.com on a lab computer and displayed their main profile page on the computer screen, which is displayed to members of the owner's social network. Once the profile page was displayed, the research assistant saved it and debriefed the participant.

Linguistic content was taken from the About Me section of the Facebook.com profile page. In this section, owners of Facebook.com pages describe themselves in any way that they desire to their social network. To analyze the linguistic content of the About Me section, we used the linguistic inquiry word count program (LIWC; Pennebaker, Booth, & Francis, 2007). The LIWC is a widely used

¹ Eighty of Buffardi and Campbell's (2008) 129 participants were included in this study because these participants included About Me sections in their Facebook.com profiles.

and well-validated program that counts the percentage of words in a body of text that correspond to various categories (Mehl, 2006). The program uses an internal default dictionary comprised of several word categories according to how much a group of words relate to a particular topic. The LIWC word categories have adequate psychometric properties (Pennebaker et al., 2007). We were specifically interested in how often participants used first-person singular pronouns, as frequent use of these pronouns is associated with narcissistic personality (Raskin & Shaw, 1988). All About Me sections were spell-checked prior to analysis. The narratives contained 4854 total words.

Each Facebook.com profile page contains a main photo, which is viewed by all members of the owner's social network. We had five coders, all blind to owners' NPI scores, rate each owner's main photo on characteristics that would draw attention to the owner's page. First, the main photo was rated according to how much the owner was self-promoting in the photo by averaging coders' ratings of how self-promoting and vain the photo was. Second, the main photo was rated on how sexy the owner appeared by averaging coders' judgments of how sexy, modest (reversed), and clothed (reversed) the main photo was. All ratings were made on a 7-point scale ranging from 1(not at all) to 7(very much). Because consensus among the five coders on the self-promoting and sexy adjectives (self-promoting, vain, sexy, modest, and clothed) was sufficient (alphas .71–.90 for the five items), responses to the two self-promotion items and the three sexy items were collapsed across the five coders. Ratings of self-promotion and sexiness were highly correlated ($r = .88, p < .001$) and were averaged to form a composite measure of drawing attention to self.

6. Results

We predicted that narcissistic participants would call more attention to themselves by displaying a self-promoting and sexy main photo when they had used a low number of first-person singular pronouns in their About Me sections. Men tend to have higher narcissism scores than women do (Ames, Rose, & Anderson, 2006). Because our results were not moderated by participant gender, we included participant gender as a covariate in all analyses. All predictors were centered prior to analysis.

As expected, a significant narcissism \times first-person singular pronoun use interaction emerged, $\beta = -0.27, t = -2.52, p = .01$ (Fig. 1). The main effect for first-person singular pronoun use fell just short of significance, $\beta = -0.21, t = -1.93, p < .06$, such that greater use of first-person singular pronouns was associated with

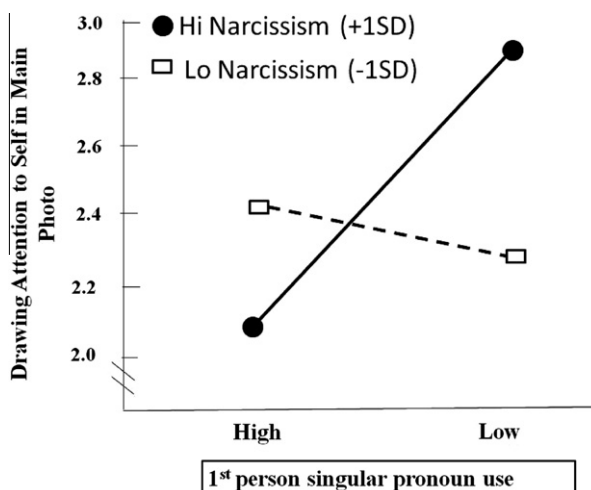


Fig. 1. Narcissism \times use of first-person singular pronoun interaction on ratings of self-promoting and sexiness Facebook.com profile main photo. Study 1.

displaying a main photo that was less self-promoting and sexy. The narcissism main effect was not significant, $\beta = 0.04, t = 0.38, p = .71$.

To clarify the nature of this interaction, we examined the simple effect of narcissism on main photo ratings among those who used relatively high (i.e., +1 SD) and low (i.e., -1 SD) amounts of first-person singular pronouns. Among participants who used relatively low amounts of first-person singular pronouns, narcissism related to higher ratings of drawing attention to self in their main photo, $\beta = 0.33, t = 2.08, p = .04$. In contrast, among participants who used relatively high amounts of first-person singular pronouns, narcissism was unrelated to how much attention they drew to themselves in their main photo, $\beta = -0.25, t = 1.60, p = .11$.

Additional analyses examined the simple effect of first-person singular pronoun use on drawing attention to oneself in the main photo among participants who were relatively high (i.e., +1SD) and low (i.e., -1SD) on narcissism. As expected, among narcissistic participants, use of first-person singular pronouns correlated negatively with drawing attention to oneself by displaying a self-promoting and sexy main photo, $\beta = -0.50, t = -3.11, p = .003$. In contrast, non-narcissistic participants showed no correlation with first-person singular pronoun use and displaying a self-promoting and sexy main photo, $\beta = 0.09, t = 0.55, p = .58$.

7. Discussion

Study 1 offered initial evidence that narcissistic people drew attention to themselves by displaying a self-promoting and sexy main photo on their Facebook.com profile page, but this behavior was contingent on how many words they had used about themselves in an online self-description. When narcissistic participants used low levels of first-person singular pronouns to describe themselves, they displayed a photo that was highly self-promoting and sexy. In contrast, narcissism did not relate to ratings of their main photo when participants had used a large number of first-person singular pronouns to describe themselves.

7.1. Study 2

Study 2 sought to replicate and extend the findings of Study 1 in two ways. First, we used a large sample of adults instead of an entirely undergraduate sample. Because narcissism correlates negatively with age (Foster, Campbell, & Twenge, 2003), it was desirable to replicate our effects in a sample characterized by lower levels of narcissism. Second, we used a written measure of drawing attention to the self instead of a visual measure, namely the use of profanity and aggressive words participants used when describing themselves. This type of word use qualifies as a behavior that could be used to draw attention to the self because of the low base-rate of using profane and aggressive (e.g., kill and fuck) words to describe oneself. We expected that narcissistic participants would use more swear words in their self-descriptions when they had used low levels of first-person singular pronouns, but not when they had already drawn attention to themselves by using high levels of first-person singular pronouns.

8. Method

8.1. Participants

One thousand seventy-two adult volunteers (859 women, 200 men, 13 did not specify gender) were recruited via online advertisements placed in different US cities (age: $M = 32.72, SD = 11.71$). Participants were free to complete this study from wherever they were able to access the internet. The postings on

www.craigslist.org directed participants to the website www.surveymonkey.com, which was used to design and host the survey. Participants did not receive any compensation for participation. Of these participants, 234 provided incomplete NPI and/or self-description data, leaving 838 participants (689 women, 145 men, 4 did not specify gender; age: $M = 33.32$, $SD = 11.72$) for final analysis.

8.2. Materials and procedure

Participants were told the study involved completing a personality test and then writing an essay about themselves. After giving their consent, participants completed the narcissistic personality inventory ($\alpha = .83$; $M = 14.62$, $SD = 6.83$, range: 0–38). Next, participants were asked to write three essays about themselves. The instructions emphasized that participants would be communicating about traits that were relevant to themselves, to be as specific as possible, and that their results would be analyzed carefully by the researchers. Participants were also informed that their results would not be shared with people other than the researchers in charge of the study. Hence, the instructions alerted participants that their online self-descriptions would be considered carefully by the researchers in charge of the study. By random assignment, participants were assigned to write their three essays about why they did or did not have certain personality traits. Participants were also randomly assigned to write about personality traits that were pre-rated as highly negative (i.e., dishonest, untrustworthy, and unkind) or highly positive (i.e., honest, trustworthy, and kind). For example, a participant assigned to write about why he or she had positive personality traits was instructed to “write three brief essays regarding why you have each of the following personality traits: honest, trustworthy, kind.” After participants completed their essays, they received a debriefing.

We performed linguistic analyses using the LIWC (Pennebaker et al., 2007). All narratives were spell-checked prior to submission to the LIWC. The narratives contained 72,229 total words. We created an antisocial word use index by combining the percentage of words related to anger and aggression (e.g., hate and kill) with swear words (e.g., fuck and damn). The use of swear words corresponds to accepted definitions of antisocial behavior in that their use is not in agreement with standards for appropriate behavior (Anderson & Bushman, 2002). Our effects were not moderated by whether participants wrote about why they did or did not have the particular trait or the valence of the traits. Hence we collapsed our results across all conditions. Because our results were not moderated by participant gender, we also included participant gender as a covariate in all analyses.

9. Results

We predicted that narcissistic participants would call more attention to themselves by using antisocial words when they had used a low number of first-person singular pronouns in their essays. As expected, a significant narcissism \times first-person singular pronoun use emerged, $\beta = -0.13$, $t = -3.55$, $p < .001$ (see Fig. 2). We also found a main effect for narcissism, $\beta = 0.08$, $t = 2.21$, $p < .03$, such that higher scores related to greater use of antisocial words. This main effect replicates prior work showing a relationship between narcissism and aggression (Bushman & Baumeister, 1998). The main effect for first-person singular pronoun use was not significant, $\beta = -0.004$, $t = -0.13$, $p = .90$.

To clarify the nature of this interaction, we examined the effect of narcissism on antisocial word usage among participants who used relatively high (i.e., +1 SD) and low (i.e., -1 SD) amounts of first-person singular pronouns in their self-descriptive essays.

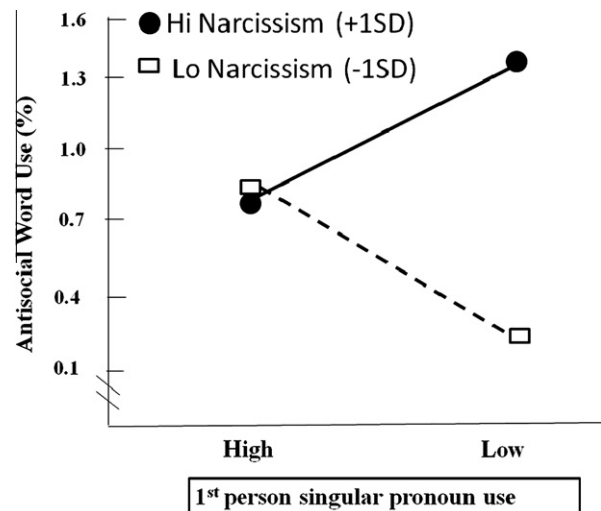


Fig. 2. Narcissism \times use of first-person singular pronoun interaction on use of profane and aggressive words when making a self-description. Study 2.

Among participants who used a relatively low amount of first-person singular pronouns, narcissism was associated with greater use of swear words, $\beta = 0.20$, $t = 4.19$, $p < .001$. In contrast, among participants who used a relatively high percentage of first-person singular pronouns, narcissism did not relate to more frequent use of antisocial words, $\beta = -0.05$, $t = -0.97$, $p = .34$.

Additional analyses examined the simple effect of word use among participants high (i.e., +1 SD) and low (i.e., -1 SD) in narcissism. As expected, among narcissistic participants, use of first-person singular pronouns correlated negatively with antisocial word use, $\beta = -0.13$, $t = -2.67$, $p = .008$. In contrast, non-narcissistic participants showed an unexpected positive correlation with first-person singular pronoun use and antisocial word use, $\beta = 0.12$, $t = 2.41$, $p < .02$.

10. Discussion

These findings extend the Study 1 findings by showing that narcissists shift their linguistic style according to the amount of first-person singular pronouns they use in an online self-description activity. When narcissists used a low number of first-person singular pronouns, they drew attention to themselves by using higher numbers of profane and aggressive words in narratives about themselves. When narcissists had already drawn attention to themselves by using a high number of first-person singular pronouns, however, they did not use higher numbers of profane and aggressive words in their narratives. Thus, narcissistic participants displayed signs of implicit compensation as a means of drawing possible attention to the self when attention was not forthcoming.

10.1. General discussion

Digital communication has become a way of life. People email instead of writing letters, text instead of call, and plan events with friends and family through social networking sites instead of sending invitations through the mail. Because digital communication is so widespread, the current investigation did not seek to add to prior research comparing personality traits between people who do versus do not use digital communication methods (Marcus, Machilek, & Schütz, 2006). Instead, the current work investigated whether narcissistic people use strategies in how they communicate with others online so that they are not deprived of attention being directed toward the self. If narcissistic people do not use words that draw attention to the self, we expected that they would

engage in compensatory actions aimed at putting the spotlight back on themselves.

Two studies provided consistent evidence in support of this hypothesis. In Study 1, narcissistic participants who used low (but not high) levels of first-person singular pronouns when describing themselves on their Facebook.com profile page posted a picture of themselves that was highly self-promoting and sexy. Study 2 replicated and extended these results with a large sample of adults and a different measure of drawing attention to the self, namely the use of profane and aggressive words when providing a self-description. Thus, when narcissists do not use words about themselves, they engage in actions that will set them apart from others, giving them the attention to which they feel entitled (Campbell, Bonacci, Shelton, Exline, & Bushman, 2004).

10.2. Implications

The current findings highlight the interplay between personality and word use in predicting online communication. Words are among the most frequently used commodities in human life. Yet, people often ignore how the words they use relate to their chronic motivations, emotions, and situations they encounter. Moreover, online communication brings with it limitations on nonverbal expression and other forms of communication, which can decrease understanding between communicators (Epley & Kruger, 2005). When communicating online, narcissists engage in behaviors that may draw attention to themselves when they do not use words about themselves. Although it is unclear whether this implicit compensation process proves successful in getting narcissists the attention they crave, the current findings suggest that narcissists approach online communication opportunities with the same mentality that they use in face-to-face interactions.

Notably, this is also one of the first research endeavors to investigate how multiple narcissistic behaviors influence each other simultaneously. That is, in the past, lines of research have examined narcissists' dress and styling (Vazire, Naumann, Rentfrow, & Gosling, 2008), bragging (Buss & Chiodo, 1991), and dating behaviors (Campbell, 1999) separately, to name just a few outcomes. The current studies highlight the interplay between narcissism and first-person pronoun use to predict appearance and anti-social behavior (by way of word choice). Many new research questions could potentially be generated based on these findings. For example, do narcissists carefully pick and choose how they want to self-enhance outwardly, rather than doing so indiscriminately? What factors contribute to narcissists' decision about which route they will use? And, do narcissists have a gauge that indicates when, as a whole package of outward displays, they are drawing attention to themselves too much or too little? Such questions are significant for personality researchers to consider.

10.3. Limitations and future directions

Despite the consistency of the effects, there were some limitations that deserve consideration. First, the current work did not examine how much the implicit compensation process we identified in online communication also applies to face-to-face interactions. Because prior work has shown that narcissists' online communication styles mirror how they communicate with others in non-virtual environments (Buffardi & Campbell, 2008), we would expect to replicate our effects in face-to-face interactions. Second, we did not examine how the implicit compensation process may be strengthened or weakened according to the type of relationship in which the online communication occurred. We showed that narcissists engaged in implicit compensation processing with other people they knew (i.e., members of their Facebook social network in Study 1) and with people they did not know

(i.e., researchers in charge of a study in Study 2). Future work may explore whether narcissists show the implicit compensation process especially strongly when forming romantic relationships with others compared to online communication with established relationship partners. Third, we did not examine processes that may mediate our effects. Given the extensive work on the link between narcissism and agency (Brown & Zeigler-Hill, 2004; Campbell, Rudich, and Sedikides, 2002), we predict that the desire to present oneself as agentic would help explain why narcissists communicate in ways that draw attention to themselves.

A fourth limitation of the current work is that our studies relied on the use of U.S. samples, leaving the question of cross-cultural universality open. We would not expect our effects to replicate in cultures that have substantially lower levels of narcissism compared to our US samples. In countries with restrictions on online communication, narcissistic implicit compensation processes could also be reduced because online communication may not represent a means by which people express themselves openly. These possibilities await future inquiry.

Another limitation is that we did not observe a zero-order correlation between narcissism and the use of first-person singular pronouns. Although we failed to replicate prior work with such a relationship (Raskin & Shaw, 1988), this null effect meshes well with recent evidence regarding behavioral manifestations of narcissism in everyday life (Holtzman, Vazire, & Mehl, 2010). Future work may investigate why narcissists' use of first-person pronouns increases when they give impromptu speeches, but not when they communicate about themselves in virtual environments or in their everyday behavior.

A final limitation is that we did not provide causal evidence regarding the directionality of the current effects. It is unclear at this point the order in which the compensation process is occurring. Facebook profiles, like many routes of self-presentation on the Internet, are fluid. Users engage in changing and editing different aspects at different times. The present studies do not indicate if using fewer personal pronouns is prompting the use of a particularly sexy photo or vice versa (using more pronouns leads to toning down the image). Future experimental work may manipulate whether people scoring relatively high and low in narcissism are permitted or restricted from using words about themselves and then assessing their attempts to draw attention to themselves. We expect that limiting, as opposed to permitting, narcissists' ability to use words about themselves, even if this limitation occurs beneath their conscious awareness, would cause them to make more attempts to draw attention to themselves.

11. Concluding remarks

How people communicate in virtual environments depends on many factors. The current research suggests that narcissists regulate themselves during virtual communications in a manner that may draw attention to themselves. By understanding how word use can impel or inhibit attention-seeking behaviors during online communication, the current findings can equip researchers with crucial information regarding how people regulate their online interactions with others and, potentially, how those interactions can be improved.

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