Self-Presentation 2.0: Narcissism and Self-Esteem on Facebook

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Abstract

Online social networking sites have revealed an entirely new method of self-presentation. This cyber social tool provides a new site of analysis to examine personality and identity. The current study examines how narcissism and self-esteem are manifested on the social networking Web site Facebook.com. Self-esteem and narcissistic personality self-reports were collected from 100 Facebook users at York University. Participant Web pages were also coded based on self-promotional content features. Correlation analyses revealed that individuals higher in narcissism and lower in self-esteem were related to greater online activity as well as some self-promotional content. Gender differences were found to influence the type of self-promotional content presented by individual Facebook users. Implications and future research directions of narcissism and self-esteem on social networking Web sites are discussed.

Introduction

THE INTERNET OFFICIALLY gained public face in the early 1990s; since then, it has completely changed the way information is broadcasted to the world.[1] By means of the World Wide Web, any user with minimal knowledge of the Internet is able to relay information to a vast audience through personal blogging, videos, and photos via interactive Internet sites known as Web 2.0 applications.[1] By means of these specific Web communities, individuals can post self-relevant information, link to other members, and interact with other members. Most notably, these Web sites offer a gateway for online identity constructions.[2]

While the impact of the Internet on identity production has been under investigation for over a decade, most of these studies have focused on anonymous online environments, including chat rooms and bulletin boards.[3] More recently, researchers are shifting their attention to self-presentation in less anonymous online communities, known as social networking Web sites. These virtual settings cater to a specific population in which people of similar interest gather to communicate, share, and discuss ideas. In the early phase of this research, some studies examined the effect of Internet dating sites.[3] A study of this phenomenon by Ellison et al.[4] found that people act differently in social networking environments when compared to those interacting in anonymous settings. This finding had enormous implications in identity formation in the online world, as it indicated that online self-presentation varied according to the nature of the setting.

Along with dating sites, friend-networking sites such as MySpace and Facebook have become extremely popular among college and university students.[5] These sites offer a highly controlled environment for self-presentational behavior, which provides an ideal setting for impression management.[1]

It is estimated that MySpace.com has over 20 million registered users, with a sign-up rate of over 230,000 users per day.[5] Even more shockingly, Facebook.com[6] reported a staggering 733% increase in the number of active Facebook users from 2007 to 2008. Today, the number of Facebook users is estimated at over 175 million worldwide. Despite the booming success of such friend-networking sites, peer-reviewed published research evaluating the impact of these sites on behavior and identity construction is scarce at best.[5] Against this background, the main goal of this study is to address this dearth of research by examining the relationship between offline personality and online self-presentation.

Web 2.0 and online self-presentation

Identity is an important part of the self-concept. Rosenberg[7] (1986; as cited in Zhao et al.[3]) defined self-concept as the totality of a person's thoughts and feelings in reference to oneself as an object. Identity construction has been studied as a public process that involves both "identity announcement" made by the individual claiming the identity and "identity placement" made by others who endorse the claimed identity.[3]

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Face-to-face identity is constructed under a variety of constraints. Under these circumstances, identity announcement is influenced by physical characteristics (i.e., gender, ethnicity, attractiveness) and the shared knowledge of social backgrounds. Furthermore, personal attributes often control identity placement. It is therefore very difficult for individuals to claim identities and create impressions that are inconsistent with their projected traits.[3] In contrast, online environments enable individuals to engage in a controlled setting where an ideal identity can be conveyed.

According to Markus and Nurius,[8] a person's conception of himself or herself can be distinguished by two categories: the "now self," an identity established to others, and the "possible self," an identity unknown to others. Users can achieve the latter state by withholding information, hiding undesirable physical features, and role-playing. This effect is most pronounced in anonymous online worlds, where accountability is lacking and the "true" self can come out of hiding. However, not all online worlds are completely anonymous. Facebook offers a "nonymous" (i.e., the opposite of anonymous) online setting where relationships are anchored in a number of ways, through institutions, residence, and mutual friends.[3] Unlike anonymous online environments, nonymous settings place more constraints on the freedom of identity claims. However, they provide an ideal environment for the expression of the "hoped-for possible self," a subgroup of the possible-self. This state emphasizes realistic socially desirable identities an individual would like to establish given the right circumstances.

While research on Web 2.0 applications are virtually scarce, studies suggest that the most important motive for hosting a personal homepage is impression management and self-expression.[1] Given the theoretical rationale on the potential differences between face-to-face and online self-presentation, this exploratory study examines the effects of two personality traits known to influence self-presentation: narcissism and self-esteem.

Narcissism and online self-presentation

Narcissism is a pervasive pattern of grandiosity, need for admiration, and an exaggerated sense of self-importance.[9] It is associated with positive self-views of agentic traits, including intelligence, physical attractiveness, and power. Central to most theoretical models of narcissism, the use of social relationships is employed in order to regulate narcissistic esteem. However, narcissists do not focus on interpersonal intimacy, warmth, or other positive aspects of relational outcomes. Instead, they use relationships to appear popular and successful, and they seek attractive, high status individuals as romantic partners.[10] Despite their tendency to seek out many superficial, empty relationships, narcissists rarely pursue these commitments for long periods of time. Relationships are solely pursued when an opportunity for public glory presents itself.[10]

Recently, there has been a tremendous amount of media attention surrounding the issue of narcissism and social-networking Web sites.[2] These online communities have been targeted as a particularly fertile ground for narcissists to self-regulate for a number of reasons. First, this setting offers a gateway for hundreds of shallow relationships (i.e., virtual friends), and emotionally detached communication (i.e., wall posts, comments). While these sites do indeed serve a communicative purpose among friends, colleagues, and family, other registered users can initiate requests to be friends, and one's social network often snowballs rapidly across institutions in this fashion.[11] Second, social-networking Web pages are highly controlled environments that allow owners complete power over self-presentations.[2] Users can convey desirable information about themselves (via features such as About Me, Notes, and Status Updates routinely found on social-networking sites) and can select attractive, self-promoting photographs. This type of virtual arena allows narcissists to pursue an infinite number of trivial friendships and further enables them to boast self-views of positive agentic traits.[2]

These effects may be even more evident in nonymous Web sites, such as Facebook, where users can make public "identity statements" that they may not normally do offline. These statements can take both explicit (i.e., autobiographic descriptions) and implicit (i.e., photos) forms and ultimately enable people to stage a public display of their hoped-for possible selves.[3] In accordance with this notion, research by Buffardi and Campbell[2] confirmed that narcissism predicted higher levels of social activity in the online community and more self-promoting content in several aspects of the social networking Web pages.[2]

Self-esteem and online self-presentation

In psychology, self-esteem is defined as a person's overall self-evaluation of his or her worth.[12] Implicit and explicit self-esteem are subtypes of self-esteem. Implicit self-esteem is an automatic, unconscious self-evaluation; explicit self-esteem is a more conscious, reflective self-evaluation.[12] Regardless of the type of self-esteem, one of the most pervasive facts about this construct is that all humans have a vital need to maintain and/or raise it.[1] Parallel to this line of thought, it can be expected that individuals will strive for positive self-presentations in both online and offline social settings. It is also likely that people with low self-esteem will be even more eager to engage in online activities that may raise their self-esteem.[1] By doing so, it may provide an outlet for the hoped-for possible self to be expressed.[1] However, with regard to online impression management, Krämer and Winter did not find any differences between self-presentation and low and high self-esteem users.[1] These contradictory results warrant further research within the emerging field of online self-presentation.

Overview of the present study

The present study extends the existing research on self-presentation in online friend-networking Web pages. Although there are many online venues appropriate for this type of research (e.g., MySpace), Facebook was used in this investigation for two reasons. First, Facebook is the most commonly used site by individuals in our sample—university students.[6] When this site was first created, a university e-mail address was required to set up an account. Although virtually anyone can now sign up for Facebook, this online community remains a popular site for college and university students. Second, Facebook profile pages have a structured, fixed format. This consistency allows for a controlled comparison among Web page users. This study examines the effects of

narcissism and self-esteem on online social activity and their associations with online self-promotional content. Gender differences are explored as moderators of types of self-promotional content presented on personal Web pages. The following hypotheses are tested:

H1: Individuals with high narcissism scores will be correlated with a greater amount of Facebook activity.

H2: Individuals with high narcissism scores will use more self-promoting content on Facebook.

H3: Males with high narcissism scores will display descriptive self-promotion, while females with high narcissism scores will display superficial self-promotion.

H4: Individuals with low self-esteem will be correlated with a greater amount of Facebook activity.

H5: Individuals with low self-esteem scores will use more self-promoting content on Facebook.

Note that descriptive self-promotion is conveyed by text (e.g., via About Me, Status Updates, and Notes features), and superficial self-promotion involves images (e.g., photos posted as "Main Photo" or in Web page photo albums).

Method

Participants

One hundred Facebook owners (50 male, 50 female) were randomly recruited at York University. They ranged in age from 18 to 25 years ($M = 22.21$, $SD = 1.98$). All participants gave permission to be added to Facebook and agreed to have their pages coded for the present research.

Rater

The rater of the participants' Facebook page was the author of this study, a 22-year-old female undergraduate student at York University.

Materials

After agreeing to participate in this research study, Facebook owners were administered a brief four-part questionnaire. The first section required demographic information, including the participant's age and gender. The second section addressed Facebook activity; it required respondents to indicate the number of times they check their Facebook page per day and the time spent on Facebook per session. The remaining sections assessed two psychological constructs: self-esteem and narcissism.

The Rosenberg Self-Esteem Scale was used to measure participant self-esteem. This 10-item test measured self-esteem using a 4-point Likert scale, ranging from strongly disagree to strongly agree. Example items include "On the whole, I am satisfied with myself" and "I take a positive attitude toward myself." The original reliability of this scale is 0.72. This measure has gained acceptable internal consistency and test–retest reliability, as well as convergent and discriminant validity.[1]

Narcissism was assessed using the Narcissism Personality Inventory (NPI)-16. The NPI-16 is a shorter, unidimensional measure of the NPI-40. While the 40-item measure revealed an $\alpha = 0.84$, the NPI-16 has an $\alpha = 0.72$. Despite this discrepancy, the two measures are correlated at $r = 0.90$ ($p < 0.001$). This 16-item forced-choice format personality questionnaire also has notable face, internal, discriminant, and predictive validity.[13] Example items include "I am more capable than other people" versus "There is a lot that I can learn from other people," and higher scores on the NPI indicate more narcissistic personality. Overall, the NPI-16 is both a valid and reliable way to capture a range of different facets of this construct, particularly in situations where the use of a longer measure would be impractical.[13]

Procedure

Undergraduate students were randomly recruited on campus and asked to participate in a study exploring the use of Facebook. Participants were selected on the basis of whether or not they had an active Facebook account. Upon agreeing to participate in this research study, participants were presented with a waiver form to sign if they consented to being added to Facebook to have their page rated. Participants were also assured that all identifying information would be kept anonymous. Following their consent, participants were administered the four-part questionnaire. Upon completion, participants were immediately added to Facebook and were then fully debriefed.

Five features of the Facebook page were coded for the extent to which they were self-promoting: (a) the About Me section, (b) the Main Photo, (c) the first 20 pictures on the View Photos of Me section, (d) the Notes section, and (e) the Status Updates section. For the purpose of this study, self-promotion was distinguished as any descriptive or visual information that appeared to attempt to persuade others about one's own positive qualities. For example, facial expression (e.g., striking a pose or making a face) and picture enhancement (e.g., using photo editing software) were coded in the Main Photo and View Photos of Me sections. The use of positive adjectives (e.g., nice, sexy, funny), self-promoting mottos (e.g., "I'm so glamorous I bleed glitter"), and metaphorical quotes (e.g., "A girl should always be two things: classy and fabulous—Coco Chanel") were coded in the About Me section. Self-promotion in the Notes section could include posting results from Facebook applications including "My Celebrity Look-alikes," which compares a photo of the user to celebrities, or vain online-quiz results, which often provide shallow descriptions of the user (e.g., You are very mysterious and sexy). Status Updates were also coded on the basis of self-promoting information provided by the user. Each section was rated on a 5-point Likert scale ranging from 1, *not at all*, to 5, *very much*. In cases where Facebook users kept these features private, the corresponding feature was not rated.

Results

A Pearson correlation addressed the relationship between narcissism ($M = 8.21$, $SD = 4.81$) and Facebook activity. As predicted, higher scores on the NPI-16 were positively correlated with the number of times Facebook was checked per day, $r = 0.462$, $p < 0.01$; and with the time spent on Facebook per session, $r = 0.614$, $p < 0.01$. Similarly, a Pearson correlation was used to test the relationship between self-esteem ($M = 17.05$, $SD = 4.96$) and Facebook activity. Results

TABLE 1. SELF-PROMOTING FACEBOOK CORRELATES
WITH OWNERS' SELF-ESTEEM SCORES

Facebook content	Pearson correlation
About Me	−0.139
Main Photo	−0.374**
View Photos (20)	0.097
Status Updates	−0.103
Notes	0.007

**$p < 0.01$.

indicated a significant negative correlation between self-esteem and the number of times Facebook was checked per day, $r = -0.458$, $p < 0.01$; and with time spent on Facebook per session, $r = -0.432$, $p < 0.01$.

A series of Pearson correlation analyses were also used to assess the relation between owners' self-esteem scores and self-promotional Facebook page content. Results showed a sole significant negative correlation between self-esteem and self-promotion in the Main Photo section, $r = -0.374$, $p < 0.01$. The results are summarized in Table 1. Similarly, the relation between owners' narcissism scores and self-promotional Facebook page content was assessed using Pearson correlations. Results indicated significant positive correlations between narcissism and self-promotional content in the following areas: Main Photo, View Photos (20), Status Updates, and Notes. The results are shown in Table 2.

Using this information, a univariate analysis of variance was conducted to determine any gender differences that existed in the types of self-promotional behavior presented by narcissistic Facebook page owners. Unexpectedly, there were no significant interactions between narcissism, gender, and any of the coded self-promotional content. However, results indicated a main effect for gender and self-promotional information in the About Me section, $F(1, 96) = 6.367$, $p = 0.013$; the Notes section $F(1, 96) = 17.074$, $p < 0.001$; and the Main Photos section $F(1, 96) = 5.731$, $p = 0.019$. Specifically, males displayed more self-promotional content in About Me and Notes; see Figures 1 and 2. Females displayed more self-promotion in the Main Photo section; see Figure 3. No main effects were found for gender and self-promotional content in View Photos (20) or Status Updates. Results are presented in Table 3.

Discussion

Based on the literature review, it was postulated that online communities offer a gateway for identity construction and self-presentation. The goal of this exploratory study was

TABLE 2. SELF-PROMOTING FACEBOOK CORRELATES
WITH OWNERS' NARCISSISM SCORES

Facebook content	Pearson correlation
About Me	0.136
Main Photo	0.493**
View Photos (20)	0.408**
Status Updates	0.200*
Notes	0.315**

*$p < 0.05$; **$p < 0.01$.

to examine how particular offline personality traits manifested in nonymous online social environments. Building on the limited existing research within this relatively new field, one of the focuses of this study was to examine the effects of offline narcissism on Facebook activity. Given that this Web site offers various outlets for self-promotion (e.g., via About Me, Main Photo) and also presents the opportunity to display large numbers of shallow relationships (friends are counted and sometimes reach the thousands), it was hypothesized that narcissists would engage in more Facebook activity.

As predicted, there was a significant positive correlation between individuals who scored higher on the NPI-16, the number of times Facebook was checked per day, and the time spent on Facebook per session. This result is consistent with the findings presented in another study that examined narcissism and Facebook activity.[2]

While the nonymity of this environment places constraint on the freedom of individual identity claims,[3] this setting also enables users to control the information projected about themselves. In particular, users can select attractive photographs and write self-descriptions that are self-promoting in an effort to project an enhanced sense of self. Furthermore, Facebook users can receive public feedback on profile features from other users, which can act as a positive regulator of narcissistic esteem. Past research shows that narcissists, for example, are boastful and eager to talk about themselves,[14] gain esteem from public glory,[15] and are prevalent on reality television.[16] Given these findings, it was hypothesized that narcissists would present a similar opportunity for self-promotion on Facebook. Results partially supported this hypothesis. Significant positive correlations were found between scores on the NPI-16 and self-promotion in the following areas: Main Photo, View Photos (20), Status Updates, and Notes. However, a Pearson correlation analysis failed to show a significant correlation between narcissism and About Me self-promotion. A study by Zhao et al.[3] examining identity construction on Facebook also found that users were less likely to make positive self-descriptions in the About Me section yet were more apt to showcase themselves through photos. This preference for "show" versus "tell" can be attributed to the college sample, as the campus setting set the stage for offline socializing and thus a greater need to conceal socially undesirable narcissistic tendencies. Similarly, a study by Collins and Stukas[17] found that college students who rated higher on the NPI-40 were more apt to present themselves in a self-enhancing manner through an external domain (e.g., physical attractiveness) than through an internal domain (e.g., intelligence). Although these studies support the findings in the About Me, Main Picture, and View Photos (20) sections, they are also paradoxical to the relation between narcissism and self-promotion in other implicit domains: Status Updates and Notes. This can be attributed to the distinctiveness of the Facebook environment and features. Status Updates are generally used to broadcast current states, and in this context, it is both acceptable and the norm to use this feature to boast. It should also be distinguished that the Notes feature of Facebook can include other information besides written text, such as images of My Celebrity Look-alikes. This application was common among this sample and was noted as self-promotional behavior.

Based on these findings, additional tests were also conducted to assess whether gender differences existed with regards to the types of self-promotional features that narcissists
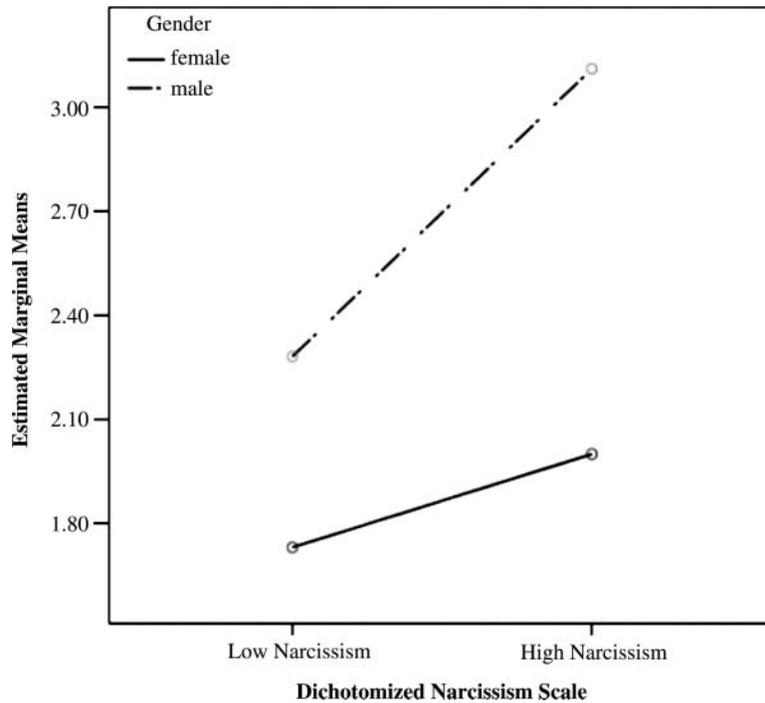
FIG. 1. Estimated marginal means of About Me self-promotion.

were apt to include in their Facebook profiles. It was hypothesized that male narcissists would include more descriptive self-promotion, while female narcissists would include more superficial self-promotion. Although no significant interactions were found among narcissism, gender, and self-promotional content, there were some main effects between gender and self-promotional content. Males displayed more self-promotional information in the About Me and

Notes sections than women. Conversely, women displayed more self-promotional Main Photos.

Although there has been no research examining gender differences in types of self-promotional domains, particularly in online settings, this premise supports simple socialization processes. Specifically, it is probable that gender roles influenced narcissistic females' tendencies to include revealing, flashy, and adorned photos of their physical appearance and
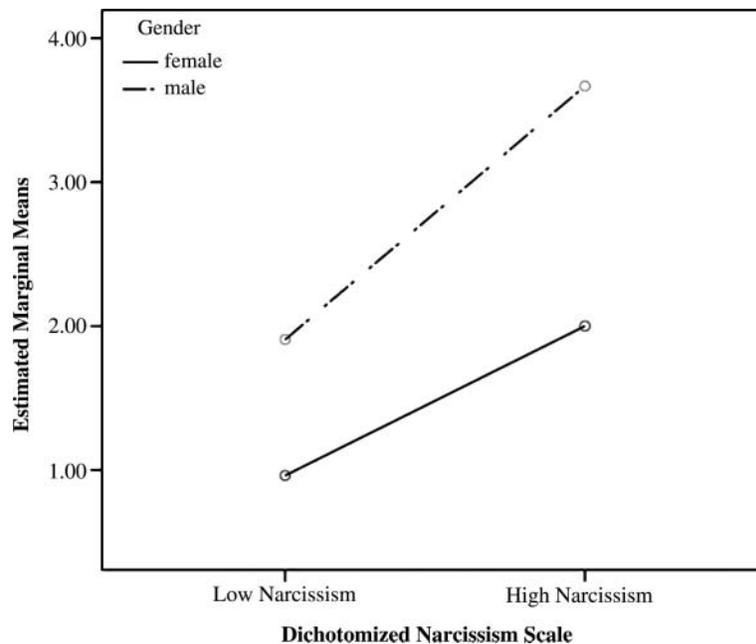

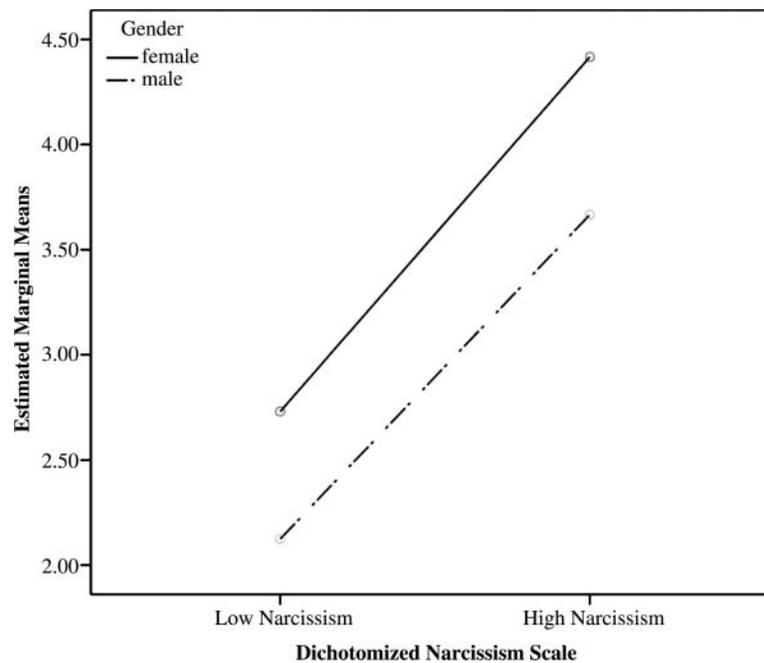FIG. 2. Estimated marginal means of Notes self-promotion

FIG. 3. Estimated marginal means of Main Photo self-promotion.

trends in narcissistic males to highlight descriptive self-promotion reflecting intelligence or wit in the About Me section.

Despite this notion, gender differences were not significant in the View Photos (20) or Status Updates sections. Although there is no empirical reasoning behind this finding, several hypotheses can be made to explain this result. First, self-promotional Status Updates are more widely accepted as normative behavior on Facebook. Thus, both males and females may be equally as likely to use it as a means of self-promotion. Second, View Photos (20) include photos of the user from other individuals' albums. For this reason, there is less control of what pictures are being displayed and thus a lesser likelihood for self-promotional differences among males and females. However, given the exploratory nature of this study, future research is needed to explore gender differences

TABLE 3. THE EFFECTS OF GENDER ON SELF-PROMOTIONAL FACEBOOK CONTENT

	Type III sum of squares	df	Mean square	F	Sig.
About Me					
Gender	16.539	1	16.539	6.367	0.013
Narcissism	7.236	1	7.236	2.786	0.098
Gender & narcissism	1.883	1	1.883	0.725	0.397
Error	249.362	96	2.598		
Notes					
Gender	40.850	1	40.850	17.074	0.000
Narcissism	46.927	1	46.927	19.614	0.000
Gender & narcissism	3.122	1	3.122	1.305	0.256
Error	229.680	96	2.393		
Main Photo					
Gender	11.011	1	11.011	5.731	0.019
Narcissism	62.403	1	62.403	32.479	0.000
Gender & narcissism	0.125	1	0.125	0.065	0.800
Error	184.449	96	1.921		
View Photos (20)					
Gender	0.695	1	0.695	0.308	0.058
Narcissism	40.400	1	40.400	17.920	0.000
Gender & narcissism	0.637	1	0.637	0.283	0.596
Error	216.430	96	2.254		
Status Updates					
Gender	6.158	1	6.158	2.899	0.092
Narcissism	12.259	1	12.259	5.771	0.018
Gender & narcissism	3.496	1	3.496	1.645	0.203
Error	203.944	96	2.124		

in Web page self-promotional content and interactions between narcissism and gender in an online environment.

A popular view on the etiology of narcissism, rooted initially in psychoanalytic theory, proposes that narcissism is deep-seated in fragile self-esteem or vulnerability to shame.[18] Although this hypothesis is widely accepted in clinical psychology, empirical evidence presents both equivocal and inverse findings with regards to this relationship.[18] Despite this uncertainty, this association was used to hypothesize that individuals with low self-esteem would be correlated with a greater amount of Facebook activity.

As predicted, results indicated a significant negative correlation between self-esteem and Facebook activity. Specifically, individuals who rated lower on the Rosenberg Self-Esteem Scale were correlated with a greater amount of time spent of Facebook per session and a greater number of Facebook logins per day. These results are contradictory to those presented by Krämer and Winter,[1] which found that self-esteem was unrelated to StudiVZ (a German Web 2.0 site) activity. Nevertheless, given the limited nature of research in this particular field, these results should not be viewed as conclusive.

The association between narcissism and self-esteem was also used to predict that individuals with low self-esteem would be correlated with a greater amount of self-promotional content on their Facebook pages. According to Markus and Nurius,[8] the actualization of the hoped-for possible self can be blocked by the presence of physical gating features, such as an unattractive appearance or shyness.[3] Using this theory, Zhao et al. suggested that nonymous online environments provide a fertile ground for these "gated" individuals to actualize the identities they hope to establish but are unable to achieve in face-to-face situations.[3]

In accordance with this notion, a significant negative correlation was found between participant self-esteem and Main Photo self-promotion. In this case, Main Photos could have been selected or enhanced to cover up undesirable features by individuals with low self-esteem in order to enable the actualization of their hoped-for possible selves. However, results failed to show any significant correlations between self-esteem and self-promotional content in View Photos (20), About Me, Status Updates, or Notes. These results can be explained by the context of the Facebook environment. The nonymity of the environment, especially the anticipation of subsequent face-to-face encounters with Facebook friends, has been hypothesized to narrow the discrepancy between the actual selves and the ideal selves in people's online self-presentations. Alternatively, a fully anonymous online environment might create a less inhibited environment for the fantasized ideal self to be projected (e.g., via About Me, Notes).[3] In this case, self-enhanced written descriptions are less likely, while self-promoting Main Photos are normative and thus accepted in this particular online community.

Limitations

The central concern with this study was the subjectivity in Facebook page coding. This potential bias could have been avoided by having several raters who were different in age, gender, and race. Future studies should also include raters who are not strangers to the participant (i.e., friends, family) in order to get a more accurate assessment of self-promotion. Another limitation of this study was the subjectivity of self-

promotional content. Future research should address this caveat by creating a more objective measure of self-promotion. This can be achieved by taking the mean of the coders' ratings across several categories to measure self-promotion (e.g., Main Photo self-promotion could be created by taking the mean of the coders' ratings of how provocative and vain the photo was).

Future directions

Aside from including a more objective measure of Facebook page coding and incorporating multiple page coders, future research should seek to expand these results across a larger sample that is more diverse in age and selected across a variety of settings. However, for the purpose of this study, a university student sample was most desirable, as they represent the majority of users on Facebook.[6] The results presented in this study provide valuable insight in understanding how narcissism and self-esteem are constructed in a virtual environment. This research has several implications in marketing and advertisements in online communities. For example, it can be used to sell products that enhance physical attractiveness, a feature that is desired by narcissists and individuals with low self-esteem.

This research initiative was but a first step in clarifying online self-presentation. Future studies should investigate the social consequences of friend-networking sites. For example, if individuals with low self-esteem are indeed more apt to use these sites, will their use cause an indirect effect on social self-esteem and well-being? It would be fruitful to have further research designated in this field in order to bridge the gap between the online self and the offline individual.

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