Dissertation Submitted to the Faculty

of

Xavier University

in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Psychology

By

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April 17th, 2015

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SOCIAL MEDIA, EXCLUSION, AND NARCISSISM

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To my sons, Max and Robbie, for giving me the motivation to persevere with this project.
Acknowledgements

First, I would like to thank my wife, Christine, for her love, support and encouragement. You were a team player throughout this process by giving me the space and time necessary to complete this endeavor. I want to thank my chair, Susan Kenford, for her guidance, support and encouragement. You are a great mentor and I cannot express my gratitude enough for your support on this project, as well as throughout my graduate school experience. I learned a great deal from you during my time at Xavier, and plan to carry this knowledge forward throughout my career. I would like to thank my parents, Mark and Sheryl, as well as my in-laws, Bob and Debra, for their love and support throughout graduate school. Whereas most friends and family have difficulty showing interest in a dissertation, my parents and in-laws were always willing to indulge me by listening with enthusiasm and showing encouragement. I want to thank my sons, Max and Robbie, for unknowingly giving me the extra kick in the pants to finish this project, as well as helping me grow as a person. In addition to my two biological children, I want to thank my dachshunds, Charlie and Matilda, for always being willing to cuddle while dissertating. I want to thank my brother, Brad, for his support and providing a fun respite from graduate school whenever we get together. I want to thank my friends, Jon and Sarah Wolfe, for the same reasons as my brother. In addition, I want to say thanks for the hospitality the Wolfes provided when I stayed in Cincinnati during the data collection/entry stages of the study. Thanks to my committee members, Dr. Schultz and Dr. Stukenberg, for your suggestions and lending a critical eye in the development and completion of my study. I want to thank my research assistants, Cristina Jacobson, Chelsea Hoffmaster and Kaela Allton for all of your hard work and dedication throughout the study. Thanks to Dr. Kenford’s teaching assistant, Stefanie Schmidbauer, for helping to manage the study while I was living in Fort Wayne. Thanks to Mark Nagy for his
willingness to share his statistical knowledge in the development of my analyses. Thanks to Morrie Mullins and the members of the Xavier University IRB for your careful review of my study and insightful recommendations to help protect participants. Thanks to Dr. End and Nicole Heidelberg for facilitating the participant pool. Thanks to all of the participants that were a part of the study and that were good sports after being socially excluded. Thanks to the Xavier University Psychology Department faculty and staff for their support and guidance throughout my graduate school training. Finally, I want to say thanks to all of my family and friends that provided the love, support and inspiration necessary to complete my graduate school journey.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedication</td>
<td>i</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>ii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>v</td>
</tr>
<tr>
<td>List of Appendices</td>
<td>vi</td>
</tr>
<tr>
<td>Dissertation</td>
<td>1</td>
</tr>
<tr>
<td>References</td>
<td>29</td>
</tr>
<tr>
<td>Tables</td>
<td>37</td>
</tr>
<tr>
<td>Appendices</td>
<td>39</td>
</tr>
</tbody>
</table>
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demographic Data</td>
<td>37</td>
</tr>
<tr>
<td>2. Means and Standard Deviations of Study Variables at Baseline</td>
<td>38</td>
</tr>
<tr>
<td>3. Displaced Aggression by Condition</td>
<td>38</td>
</tr>
<tr>
<td>4. Negative Affect Level by Condition</td>
<td>38</td>
</tr>
</tbody>
</table>
# List of Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Demographic Survey</td>
<td>39</td>
</tr>
<tr>
<td>B. Narcissistic Personality Inventory (NPI)</td>
<td>40</td>
</tr>
<tr>
<td>C. Positive and Negative Affect Schedule (PANAS)</td>
<td>43</td>
</tr>
<tr>
<td>D. Facebook Profile Social Appeal Rating</td>
<td>44</td>
</tr>
<tr>
<td>E. Displaced Aggression Preliminary Analysis</td>
<td>46</td>
</tr>
<tr>
<td>F. Institutional Review Board Letter of Approval</td>
<td>47</td>
</tr>
<tr>
<td>G. Accepted Feedback Form</td>
<td>48</td>
</tr>
<tr>
<td>H. Social Exclusion Feedback Form</td>
<td>49</td>
</tr>
<tr>
<td>I. Misfortune Control Feedback Form</td>
<td>50</td>
</tr>
</tbody>
</table>
Abstract

Social acceptance and exclusion are integral aspects of using Social Network Sites (SNS). The current study investigated two main questions: 1) do prior findings concerning affective and behavioral responses to acceptance/exclusion obtained in real-world contexts generalize to the virtual world? and 2) what influence does trait narcissism have on the response to acceptance or exclusion within a virtual context? Using a psychology department participant pool, 209 participants (87 men; mean age = 20.19) were randomly assigned to one of three conditions: acceptance, exclusion, and control. Treatment condition was one independent variable (IV). The second IV was high vs low trait narcissism (based on NPI score median split). Dependent variables (DV) were negative affect and displaced aggression. A single 3 x 2 MANOVA was conducted to determine the main and interaction effects of the two IV’s and two DV’s. Main effects for condition emerged for negative affect and displaced aggression, $F(2, 203) = 8.09, p < .001; F(2, 203) = 5.12, p = .01$, respectively. Participants led to believe they had been socially excluded showed significantly more negative affect compared to participants in the accepted condition, $p = .001$, and were significantly less likely to display displaced aggression compared to participants in the accepted condition, $p = .006$. Trait narcissism was not related to outcome, Wilks’s $\Lambda = .98, F(4, 404) = 1.03, p = .39$, partial $\eta^2 = .01$. The findings are inconsistent with past real-world research linking social exclusion with a neutral or numbed affective response and an aggressive behavioral response. Future research should investigate if the interpersonal distance provided by SNS can account for the differential affective outcomes, as well as if exposure to social media attenuates aggressive responding, while facilitating a more affiliative response.
Social Media, Social Exclusion, and Narcissism

Social media has been defined as “a group of internet-based applications that build on the technological foundations of Web 2.0, which allows the creation and exchange of user-generated content (UGC) (Leung, 2013, p. 997).” Following its creation in 2006, the social networking site (SNS) Facebook has become one of the most influential social trends of the past decade (Caers, De Feyter, De Couck, Stough, Vigna, & Du Bois, 2013). The explosive growth of Facebook and other SNS, both nationally and internationally (Caers et al., 2013), underscore the increasing importance for social scientists to study SNS. Examples of the reach of online networks include Facebook reaching 1 billion active monthly users (Grandoni, 2012; Ljepava, Orr, Locke, & Ross, 2013); and Twitter, the second most popular SNS (Davenport, Bergman, Bergman, & Fearrington, 2014), having 284 million active monthly users (statista.com, 2015).

Scientists have started to heed the call to study this new electronic frontier of society and research has grown exponentially. A June 2014 search of “Facebook” as the keyword in a private university’s midsized Electronic Journal Center produced 458 results from the years of 2010 – 2014, as opposed to only 22 results from the years of 2005 – 2009; although many of these results came from the social sciences (160), a wide variety of fields were represented, including: computers and computer science, engineering, arts and humanities, health sciences and medicine, as well as business, economics, and management. A similar search by Caers et al. (2013) in a larger database produced 3068 hits.

Despite the growth in SNS research, to date social scientists have focused surprisingly little attention on an aspect of SNS use that is often highlighted and discussed by the popular media – specifically, the integral nature of social exclusion to SNS use (Winch, 2013). The experience of acceptance and exclusion is inherent to participation in SNS – for example, one
can choose to “follow” or “re-tweet” on Twitter, “like” or make negative comments to a Facebook post, or accept/deny a friend request on Facebook (Wince, 2013); Although researchers have begun to study how exclusion on SNS is experienced by users (e.g., Hebl, Williams, Sundermann, Kell, & Davies, 2012; Knausenberger, Hellman, & Ecterhoff, 2014), the similarities and differences between virtual and in-vivo exclusion remain largely unexplored.

Social Exclusion

Creating a profile and seeking out new relationships through SNS is not without risk; as in all human interactions, seeking connection through SNS carries both the chance of rejection and acceptance. As noted, explicit acceptance or exclusion is built into many SNS (Winch, 2013), and direct requests for inclusion or connection are often required to build community. Factors associated with acceptance and exclusion in the real world – such as gender and physical attractiveness (Wang, Moon, Kwon, Evans & Stefanone, 2010) and race (Tynes & Markoe, 2010) – appear to operate similarly in the virtual world. In addition to the explicit forms of acceptance/exclusion users anticipate when using SNS, Cooper (2012) highlights the growing risk of unexpected rejection by a third party – such as an employer-- due to an individual’s SNS presentation. The decision about how to self-present on SNS may be particularly difficult terrain to navigate as the factors that may lead to acceptance by peers may be lead to exclusion by potential employers.

Over the years, social scientists studying the effects of social exclusion in the real world have developed experimental paradigms that manipulate acceptance and exclusion in a controlled manner. The most common was pioneered by Twenge, Baumeister, Tice, and Stucke (2001) and randomly assigns participants to one of three experimental conditions: social exclusion, social acceptance and a physical misfortune/control. All participants complete self-
report measures purported to predict future life events and are subsequently provided with bogus
feedback. Individuals in the social exclusion group are told that, based on the information they
provided, they will be alone in the future, those in the acceptance group are told their future will
include interpersonal belonging and connectedness and those in the physical misfortune/control
group are told they will have a future of accidents, illness and injuries (see Twenge, Catanese, &
Baumeister, 2003, for a detailed description).

Laboratory studies using this manipulation have found that the social exclusion condition
produces strong behavioral effects; these include aggression and self-defeating behavior, such as
risk taking, unhealthy behavior and procrastination (Twenge, Baumeister, Tice, & Stucke, 2001;
Twenge, Catanese, & Baumeister, 2002). In addition to behavioral responses, researchers
originally hypothesized that negative emotions would emerge and mediate the behavioral
reaction to social exclusion (Twenge et al., 2001). However, results have not borne this out.
Across multiple studies, researchers have found no significant negative emotional link with
social exclusion (Baumeister, DeWall, Cirarocco, &Twenge, 2005; Blackhart, Nelson, Knowles,
& Baumeister, 2009; DeWall, Twenge, Gitter, & Baumeister, 2009; Maner, DeWall, Baumeister,
& Schaller, 2007; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007; Twenge et al., 2001;
2002; 2003). The majority of studies have found that socially excluded individuals experience a
neutral emotional reaction; when emotional effects have emerged, they have been negligible
(Baumeister et al., 2005; Blackhart et al., 2009; Maner et al., 2007; Twenge et al., 2001; 2002;
2003; 2007).

These studies have also identified generalized cognitive reactions to exclusion, including
impaired attention (Baumeister et al., 2005), increased aggression related to interpreting neutral
actions as more hostile (DeWall et al., 2009), increased interest in connecting with others for
self-protective motives (Maner et al., 2007), decreased prosocial behavior related to decreased interest in understanding others (Twenge et al. 2007), a cognitively deconstructed state related to emotional numbness (Twenge et al. 2003), and cognitive disorientation and increased impulsiveness associated with self-defeating behavior (Twenge et al., 2002).

Although the majority of contemporary social exclusion studies have found strong evidence, demonstrated through large effect sizes, of negative cognitive and behavioral reactions following social exclusion (Baumeister et al. 2005; Blackhart et al. 2007; DeWall et al. 2009; Twenge et al. 2001; 2002; 2003; 2007) one anomalous study by Maner et al. (2007) may have relevance to SNS rejection. This study found an adaptive response to social exclusion; specifically, socially excluded participants were significantly more likely than socially accepted participants to want to connect and work with others, and to view others as friendlier and more desirable. These results were interpreted as related to the study design, which led participants to believe there was the potential for future social interactions (Maner et al., 2007; Twenge et al., 2007). This finding may have important implications for understanding SNS social exclusion, as it suggests that if individuals believe they will have future interactions with those around them (e.g., if they believe a future opportunity to join a desired group exists) it may lead to markedly more affiliative responses.

**Narcissism**

Within the social science arena, one area of SNS research that is beginning to gain traction is personality, especially as it pertains to narcissism (Carpenter, 2012; Buffardi & Campbell, 2008; Davenport et al., 2014; Garcia & Sikström, 2014; Gentile, Twenge, Freeman, & Campbell, 2012; Leung, 2013; Ong et al., 2011; Panek, Nardis, & Konrath, 2013; Ryan, & Xenos, 2011; Winter et al., 2014). Researchers have proposed that SNS may be an ideal
platform for narcissistic self-regulation as they allow control of self-presentation and access to a vast network of superficial relationships that can be used to maintain the inflated ego of such individuals (Buffardi and Campbell, 2008; Ong et al., 2011, p. 181).

Gentile, Twenge, Freeman, & Campbell (2012) define narcissism as “a personality trait characterized by an elevated sense of self, entitlement, and overt grandiosity (p. 1930).” In their book, The Narcissism Epidemic, Twenge and Campbell (2009) trace the rise of narcissism from the 1970’s to the present. Using a variety of data, Twenge and Campbell (2009) tie the rise in narcissism to a variety of interrelated factors, including the Internet and SNS (however, see Arnett (2013) for a dissenting conceptualization). Gentile et al. (2012) suggest that the internet and, more specifically, SNS may provide narcissists with a convenient outlet to utilize others to garner attention, express their identity, and receive reinforcement on self-identity. In one of the first experimental studies of the effects of SNS use on personality, Gentile et al. (2012) found that 15 minutes on the SNS Myspace increased narcissism -- traditionally conceived of as a predominantly stable trait. Interestingly, this result was not found after 15 minutes of Facebook use; however, use of both sites increased positive self-view. Overall, the results suggested that SNS use may exert significant influence on the shape of personality and identity.

Although some pro-social traits appear to co-vary with narcissism—such as leadership/authority and high self-esteem (Ackerman et al., 2011; Gentile et al., 2012;)—overall, narcissism is not an innocuous condition and has been related to a constellation of negative traits, including lack of empathy, aggression, and lack of impulse control (Ong et al., 2011). A large body of laboratory based research has shown that higher narcissism scores are related to acts of aggression and feelings of anger (Baumeister, Bushman, Campbell, 2000; Bushman & Baumeister, 1998; Bushman, Bonacci, Van Dijk, & Baumeister, 2003; Locke, 2009;
Rhodewalt & Morf, 1998; Stucke, 2003; Twenge & Campbell, 2003). More recent studies of SNS behavior and narcissism have revealed elevated levels of anger, aggression, entitlement, vanity, and exploitation in individuals with higher levels of narcissism (Buffardi & Campbell, 2008; Carpenter, 2012; Garcia, & Sikström, 2014; Panek et al., 2013).

Although various narcissistic types have been described in the clinical literature (see Bender, 2012), in regards to SNS behavior, we are most interested in what has been labeled the normal or outgoing narcissist (Twenge & Campbell, 2009). Twenge and Campbell (2009) argue the normal narcissist is the most common in current society and, therefore, the most important to understand; this variant of narcissism is an individual-difference trait, not a diagnosable condition, and can be reliably and validly captured using self-report measures, the most commonly used being the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). This type of narcissism appears to be increasing in the college population (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). In a meta-analytic examination of trait narcissism among college students over a period of two decades, Twenge et al. (2008) found that NPI scores increased from an average score of 15.06 in 1982 to 17.29 in 2006. Twenge et al. (2008) argue that this increase has important societal implications as the short-term individual benefits associated with higher trait narcissism do not outweigh the harmful long-term consequences to the self, others and society.

Trait narcissism appears predictive of how an individual will respond to social exclusion. Twenge and Campbell (2003) conducted a series of four studies investigating the relations between social exclusion, narcissism and anger and found that higher trait narcissism was associated with significantly more anger and aggression following exclusion. These results are consistent with other investigations that have found higher levels of narcissism to be associated
with increased sensitivity to exclusion (Besser & Priel, 2010) and increased cardiovascular reactivity following exclusion (Sommer, Kirkland, Newman, Estrella, & Andreassi, 2009); overall, higher narcissism appears associated with stronger affective reactions. As the modal response to social exclusion for the general population appears to be reduced empathy and increased hostile actions, individuals higher in narcissism may be prone to experience particularly strong or prominent reactions. Within the context of SNS, individuals higher in narcissism may be particularly vulnerable to negative effects of exclusion (Carpenter, 2012; Garcia, & Sikström, 2014).

**Current Study**

Up to this point, there has been no known experimental research into how individuals high in trait narcissism respond to SNS-based social exclusion. With documented occurrences of cyber-bullying and, at times, subsequent suicide (Driskill, 2012) it is important to explore the interplay between narcissism, social exclusion and both behavioral and affective responses in a controlled manner. The current study investigated social exclusion and narcissism in the virtual environment using Twenge et al.’s experimental social exclusion paradigm modified to fit social media conventions. Using the social media platform Facebook, participants were led to believe they were taking part in a study investigating how similar their “real” personality—assessed through self-report measures (actually a measure of trait narcissism)—was to the “virtual” personality they created on Facebook. They were then led to believe that they had been viewed negatively and excluded by others, viewed favorably and accepted by others or viewed neither negatively nor favorably but rather with indifference by others. Using this paradigm allowed for comparison of the effects of virtual exclusion with past findings about real-world exclusion.
Based on past findings (e.g., Twenge and Campbell, 2003; Twenge et al., 2001; 2002), the following results were expected: 1) individuals higher in trait narcissism who believed they had been excluded would a) have a stronger negative affective response and b) act more aggressively against others than those lower in trait narcissism; 2) all participants, independent of narcissism level, led to believe they had been excluded would a) act more aggressively against others but b) not show any marked affective reaction compared to those led to believe they had been accepted or viewed with indifference. Finally, 3) it was expected that higher levels of trait narcissism as assessed through self-report would positively co-vary with Facebook indicators of narcissism identified in past research (Buffardi & Campbell, 2008), such as number of friends, number of groups, and number of lines of text in the “About Me” section.
Method

Participants

Participants consisted of 210 undergraduates from a mid-major, Midwestern private university; 209 of the 210 participants provided useable data. The unusable data was from a participant who participated in the study twice. This was discovered after data collection had ended and only their initial data was used. The sample was recruited through the institution’s psychology participant pool and received research participation credit for undergraduate psychology classes. Inclusion criteria included being age 18 or older, having only one current Facebook profile and willingness to share that profile. The sample was 58.4% female, with \( \bar{x} \) age = 20.19 years old (SD = 1.22, range = 18 – 26). See Table 1 for a more detailed description of the study participants’ demographic information.

Measures

Demographic survey.

A demographic survey was used to collect general participant information in order to describe the sample (see appendix A).

The Narcissistic Personality Inventory.

The Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) was used to measure narcissism (see appendix B). The NPI is a 40-item forced choice self-report questionnaire designed to measure trait narcissism in non-clinical populations. The NPI has been used as both a continuous (Bushman & Baumeister, 1998) and categorical (Heiserman & Cook, 1998) measure of narcissism. Overall, the NPI evidenced good internal consistency in the current sample, \( \alpha = .81 \).
In keeping with past research (Heiserman & Cook, 1998; Bushman et al., 2003) a median split method was utilized to differentiate between participants with relatively high and low trait narcissism.

**Positive and Negative Affect Schedule.**

The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was used to measure affective state (see appendix C). The PANAS consists of two 10-item adjective sets capturing positive affect (PA) and negative affect (NA). PA and NA are independent constructs and not opposite ends of a continuum. Separate averages for the NA and PA scales were calculated to determine participants’ negative and positive affective states. The NA and PA scales have been normed across several time frames (i.e., moment, today, past few days, week, past few weeks, year, and general). For this study, the time frame “moment” was used, as this study utilized the PANAS to capture state affect rather than trait affect. Overall, the PANAS evidenced good internal consistency in the study sample: Session 1 PA $\alpha = .85$, NA $\alpha = .73$; Session 2 PA $\alpha = .90$, NA $\alpha = .86$. Only the NA subscale was used in the current study.

**Objective Facebook page coding.**

Buffardi and Campbell (2008) created an objective measure of Facebook profile pages based on coding four common features of profiles that can be measured quantitatively: 1) Number of friends; 2) Number of wall-posts; 3) Number of groups; 4) Number of lines of text in the “About Me” section. From these four features, Buffardi and Campbell created a quantity-of-social-interactions measure by summing the number of friends, number of wall-posts and number of groups and created a quantity-of-information-about-self measure by summing the lines of text the owner had written in the “About Me” section. The authors found that the quantity-of-social-interactions measure showed a modest but significant positive correlation with
the owner’s narcissism score on the NPI ($r = .23$); in contrast, the quantity-of-information-about-self measure was unrelated to the owner’s narcissism score on the NPI ($r = .07$). Further support for the validity of the coding was illustrated by independent raters (blind to NPI score) rating pages with higher quantity-of-social-interaction and quantity-of-information-about-self-scores as more narcissistic, $r = .31$ and $r = .29$ respectively.

For the present study, the Facebook profiles were coded using a modification of Buffardi and Campbell’s (2008) method. The same four areas of Facebook Page Coding were measured: 1) Number of friends; 2) Number of wall-posts; 3) Number of groups; 4) Number of lines of text in the “About Me” section. However, the researchers counted total wall-posts for only the prior two weeks; we also created only one summary score by summing all four domains.

**Volunteered neutral profiles.**

Participants were given 10 profiles to rate throughout the study, five pre-manipulation and five post-manipulation. The profiles were rotated across participants to prevent order effects; rotation consisted of moving the last profile to the first position after each participant. The profiles were comprised of volunteer profiles drawn from the research team’s Facebook social networks. All individuals who volunteered profiles did not attend the university at which the study was conducted. This was to insure that the participants did not know the people they were rating. The profiles selected were profiles that were deemed neutral, based in part on Buffardi and Campbell’s (2008) descriptive statistics of two of the four measures of Objective Facebook Page Coding: 1) Number of groups ($M = 35.17$, $SD = 32.27$); and 2) Number of lines of text in the “About Me” section ($M = 4.95$, $SD = 8.75$). In addition to number of groups and number of lines of text in the “About Me” section, number of Facebook friends was used to help determine neutral Facebook profiles. Due to the increase since Buffardi and Campbell’s 2008
study in the average number of Facebook friends, data from Kim and Lee’s more recent 2011 study on Facebook and well-being was used to establish a normative range. Kim and Lee found that the average number of Facebook friends was 428.62 ($SD = 240.53$). Number of wall posts was not included, as it is has become more common and easier to post on Facebook walls and this number is likely to be conflated with duration of Facebook page ownership. The neutral volunteered profiles fell within $\pm 1 SD$ of the mean on the three identified indices. All volunteered profiles were de-identified prior to use.

**Facebook profile social appeal rating.**

The ten volunteered profiles were rated by participants for their appeal in regards to three different social roles: friend, coworker and employee. See appendix D for a detailed view of the measure. Changes in appeal ratings were used to capture displaced aggression and calculated by subtracting Session 2 total scores from Session 1 total scores. Negative scores reflected higher appeal ratings post-intervention and positive scores reflected lower appeal ratings post intervention. The overall change in appeal score was used as a primary DV. Total scores for the social appeal measure displayed good internal consistency for Session 1 and Session 2, $\alpha = .86$, $\alpha = .92$, respectively.

In an effort to simplify interpretation of the primary analyses, a preliminary analysis was conducted to determine if the three categories of possible displaced aggression (friend, coworker and employee appeal) were distinct, and needed to be represented by three separate DVs, or if the ratings did not differ across categories and could be collapsed into a single outcome variable. The analysis indicated no significant differences across the three categories and they were collapsed into a single displaced aggression DV. See appendix E for a detailed description of this analysis.
Procedure

Study Design

Participants were recruited for a “Facebook and Personality” study through a university psychology participant pool in exchange for course credit. Interested participants were instructed to bring their printed Facebook profile information to the first session and told that the study would consist of two data gathering sessions about one week apart. Participants were randomly assigned to one of three groups—social acceptance, social exclusion, and misfortune control. On arrival, participants completed the study measures. After completion of the first session, participants were scheduled to return approximately one week later in order to receive personality feedback they were led to believe was based on their Facebook and questionnaire data. At the start of Session 2, participants were provided with bogus feedback based on random assignment into one of the three study conditions. After receiving a sealed envelope of bogus personal feedback, participants rated additional Facebook profiles and completed a measure of current affective state. They were then debriefed.

Answering the research question required several instances of subterfuge. The necessary instances of subterfuge were as follows: 1) participants were read a bogus script to provide a deceptive rationale for the study; 2) participants were informed that they were being rated by other participants and would rate other participants on their desirability as a friend, co-worker, and employee. In actuality only volunteered neutral profiles were rated by participants; 3) participants were spuriously informed that the study was a multi-site study and participants at a different site were rating them to ensure that no one would rate a profile of someone they knew; 4) participants were informed that their Facebook profile and personality information were used to make predictions about their future; in actuality, participants received feedback based on their
random group assignment; 5) participants were informed they needed to return to the lab in approximately 1 week to receive feedback and complete additional ratings because time was required to analyze their personality results and for their profile to be rated by other study participants. In actuality all feedback was manufactured and determined by random assignment.

**Specific procedure**

Prior to initiating data collection, in keeping with human subjects research guidelines, the study was reviewed and approved by the university’s institutional review board (See appendix F for institutional review board approval letter).

Participants were recruited to be part of a study investigating Facebook profiles and personality impressions. Over the recruitment period, to help maintain the study’s subterfuge and minimize the chance of participants’ sharing the study’s true focus, three different titles were used under the general study heading “Facebook and Personality Studies.”

Participants came to the lab individually for two data collection sessions. When contacted for initial scheduling, participants were told to download a copy of their Facebook data by going to account settings and clicking on “Download a copy of your Facebook data” at the bottom of the page. Once the archived data was downloaded, the participant was asked to print out their Facebook data, including the main profile page, wall posts, photos, and friends for use in the study, and to bring this information to the first session. If participants forgot to bring their Facebook information, or brought the wrong information, they were provided with computer access to print the required information and/or assisted by a researcher in obtaining the required Facebook data.
After arriving at the lab, but prior to the initiation of data collection, participants engaged in an informed consent process in keeping with human subjects requirements. Once informed consent was obtained, participant Facebook information was collected.

**Session 1.**

During the first session, participants were provided with the following deceptive rationale for the study.

Historically, researchers have studied personality using questionnaires and self-report instruments. This work has provided scientists with a large amount of information on different personality characteristics and, over the years, has created a knowledge base that can be used to make fairly accurate predictions about the lives and outcomes of people with different types of personalities. For example, personality data can be used to make predictions about the quality of relationships individuals will have in the future and their general likeability. Surprisingly, actuarial studies of personality have even been able to accurately predict various types of life events, such as injuries, number of marriages, and number of friends. Although much is known about the correlates of personality in general, little is known about the correlates of the virtual personalities that may emerge when using social networking. With the huge growth of social networking, it will be important for scientists to study personality from this perspective. The goal of this study is to assess the similarities and differences that emerge between one’s real-life personality, assessed with traditional measures, and the personality that they display in virtual environments, as assessed by their Facebook profile information. So, in effect, this study is attempting to identify the similarities and differences between your virtual personality and real-life personality.
They rated five volunteered Facebook profiles on friend appeal, co-worker appeal and employee appeal, filled out the NPI, the PANAS, and completed the demographic survey. At the conclusion of the first session, participants were scheduled to return for the second session, approximately one week later, “to receive feedback and do some additional ratings.”

**Session 2.**

At the second session, participants were provided with one of three types of feedback, based on their random group assignment: accepted; social exclusion; or misfortune control. Research assistants presented written feedback to each participant. The written feedback included a graph depicting three groups, ostensibly containing Facebook profile ratings: high desirability, average desirability and low desirability. Participants in the accepted condition were told they were in the high desirability group; those in the excluded condition were told they were in the low desirability group. The misfortune control group was told they were in the average desirability group. The group they were in was depicted in red on the feedback form, while the remaining groups were depicted in blue (see appendices G, H, and I for examples of the feedback forms). In addition to the written document, the research assistant provided a narrative summary of the feedback, explaining what each section meant and where the information came from. All participant feedback forms were delivered in sealed envelopes, in order to give the appearance that the feedback had been personalized and that the information was secured before delivery. Research assistants answered any questions participants had about their feedback.

After participants received feedback they completed the PANAS and rated five additional Facebook profiles on friend appeal, co-worker appeal, and employee appeal. Participants were then debriefed about the study design. They were told that all feedback about their personality, their Facebook profile and their likely future experiences was false and
manufactured to create one of three experiences: acceptance; social exclusion and neutral/misfortune. The randomization process of the study was explained in detail to ensure that participants understood their feedback was completely due to random assignment. Additionally, participants were told the profiles they rated were volunteered profiles and not those of other participants in the study and that their profiles had not been rated by other participants in the study. Research assistants solicited and answered any questions about the subterfuge used in the study. In order to confirm that participants understood the subterfuge used in the study, they were asked to summarize what they had been told. If a participant was not able to clearly summarize the study design, the research assistant continued to explain the process until it was clear that the participant understood. After it was clear that the participant understood the study design, he/she was asked not to divulge the intent of the study to fellow students, in order to maintain the integrity of the study manipulation. Although no formal manipulation check was conducted, there was no indication through interactions with participants or in the pattern and nature of the obtained results over the time-course of the study, that the integrity of the study’s subterfuge had been compromised. This concluded study procedures.
Analytic Strategy

A single 3 x 2 MANOVA was conducted to determine the main and interaction effects of the two IV’s (experimental social outcome condition and level of trait narcissism) and the two DV’s: negative affect and pre-post change in rating scores of neutral Facebook profiles. This allowed for simultaneous testing of multiple hypotheses, thereby controlling type one error and capturing any relationship between the multiple DVs. A standard $p$-value of .05 was used for assessing the significance of MANOVA results. The results of the individual ANOVA’s embedded within the MANOVA were examined only if the omnibus MANOVA was significant. The Bonferroni method was applied at each point of follow-up analyses. As such, each ANOVA was tested at the .025 level and planned comparisons at the .008 level.
Results

Prior to testing the study hypotheses, preliminary analyses were conducted to investigate the effectiveness of randomization. Table 2 contains the mean values for each study variable across conditions. As displayed in Table 2, random assignment was effective and the groups did not differ at baseline on any of the study measures.

Role of Narcissism on Aggression

Hypotheses 1a and 1b posited that individuals higher in trait narcissism would react more strongly to social exclusion than would individuals lower in trait narcissism and that this would be manifested by significantly higher levels of negative affect and significantly more displaced aggression. Hypotheses 1a and 1b were not supported. There were no significant interactions between level of trait narcissism and either negative affect or displaced aggression, Wilk’s Λ = .98, F(4, 404) = 1.03, p = .39, partial η² = .01. Therefore, no follow-up analyses were conducted.

Hypotheses 2a and 2b assessed for main effects. Specifically, Hypotheses 2a posited a main effect of experimental condition on displaced aggression, with the social exclusion condition showing significantly higher displaced aggression when compared with social acceptance and projected misfortune conditions. Hypothesis 2b posited no main effect of experimental condition on negative affect. The omnibus MANOVA for experimental condition was significant, Wilk’s Λ = .89, F(4, 404) = 6.16, p < .001, partial η² = .06. Analyses of Variance (ANOVA) were conducted on each of the dependent variables as follow-up tests.

The ANOVA evaluating Hypothesis 2a, which posited a main effect of condition on displaced aggression, was significant, F(2, 203) = 5.12, p = .01. The strength of the main effect of condition on displaced aggression, as assessed by partial η², was small and accounted for 5% of the variance. Follow-up planned comparisons were conducted to evaluate pairwise differences
in displaced aggression means between the three experimental conditions: social exclusion, acceptance, and misfortune control. A significant difference emerged between the social exclusion and the acceptance conditions, $p = .006$; no other differences emerged. Participants in the social exclusion group were significantly less likely to display displaced aggression than participants in the acceptance group; thereby Hypothesis 2a was not supported as the result was opposite in direction to predictions. Participants in the social exclusion condition produced significantly more favorable social appeal ratings after rejection; participants in the accepted condition showed no change in their social appeal ratings from baseline. The 95% confidence intervals for the pairwise differences, as well as the means and standard errors for the three groups, are reported in Table 3.

The ANOVA evaluating Hypothesis 2b, which posited no main effect of condition on negative affect, was significant, $F(2, 203) = 8.09$, $p < .001$. The strength of the main effect of condition on affective response, as assessed by partial $\eta^2$, was medium and the social outcome factor accounted for 7% of the variance. Follow-up planned comparisons were conducted to evaluate pairwise differences in negative affect means between the three experimental conditions: social exclusion, acceptance, and misfortune control. A significant difference emerged between the social exclusion and the acceptance conditions, $p = .001$; no other differences emerged. Participants in the Social Exclusion group were significantly more likely to display negative affect than participants in the acceptance group. Therefore, H2b was not supported as the obtained results did not show the predicted neutral affective response for the three experimental groups. Participants in the social exclusion condition reacted with significantly more negative affect compared to the acceptance condition. The 95% confidence
intervals for the pairwise differences, as well as the means and standard errors for the three groups, are reported in Table 4.

The last hypothesis tested, Hypothesis 3 (H3), predicted that participants higher in trait narcissism would create Facebook profiles that reflected more narcissism than participants with lower trait narcissism. Facebook profile narcissism was captured using total Objective Facebook Coding score. Hypothesis 3 was analyzed using an independent samples t-test. The test was not significant, \( t(49) = 1.28, p = .98 \), and H3 was not supported. However, due to data collection difficulties, the sample with useable data was markedly reduced \( (n = 51) \) and there may have been insufficient power to detect an effect. Specifically, it proved difficult to obtain all four indices of Objective Facebook Coding: 1) Number of friends; 2) Number of wall-posts; 3) Number of groups; 4) Number of lines of text in the “About Me” section. This was due to many participants not bringing in all pieces of the requested Facebook profile information at session one and research assistants being unable to quickly and reliability access and print the missing information.
Discussion

This study assessed whether social exclusion that occurs within a social media context 1) has the same behavioral and emotional correlates as social exclusion in the real world and 2) if individuals higher in trait narcissism might be particularly vulnerable to the effects of social exclusion. Our results suggest in regards to the first question, no—social exclusion within a social media context has different correlates than real-world social exclusion. Differences emerged for both behavioral actions and affective response to social exclusion. Whereas past in vivo studies have found that participants react with a numbed affective response and an aggressive behavioral response to social exclusion (e.g., DeWall et al., 2009; Twenge et al. 2003), excluded participants in the current study showed significantly more negative affect and diminished, not intensified, aggressive behavioral actions compared to those socially accepted.

The preponderance of past studies of social exclusion have found no evidence of a negative affective response after social exclusion (Baumeister et al., 2005; Blackhart et al., 2009; Maner et al., 2007; Twenge et al., 2001; 2002; 2003; 2007), a finding contrary to researchers’ initial expectations when embarking on this line of inquiry. Instead of the anticipated negative response, researchers often found a numbed affective response that was interpreted as a possible coping mechanism employed to deal with the repercussions of experiencing social exclusion (Twenge et al. 2003). This begs this question, why the different result in the current study?

Although the data do not provide definitive answers, the most plausible explanation is that virtual social interactions are experienced differently than in-person social interactions and that humans react in a fundamentally different manner when excluded by someone more distal, and hence less salient. The decreased interpersonal salience provided by virtual, as compared to real world, interactions may signal the presence of less risk, thereby reducing subjective
vulnerability and changing the type and amount of affect that emerges. When viewed within the context of perceived risk, a numbed affective response serves a protective function and can be understood as a more extreme response that may have evolved to protect us from feeling more intense psychological or physical pain, ensuring we are ready to act and are not distracted by affective distress. The emergence of negative affect may signal a more moderated and perhaps motivating response.

This study also produced a different behavioral response in the face of exclusion than seen in past real-world studies: participants were less aggressive and more affiliative. The majority of previous real-world studies have found that individuals react aggressively when experiencing social exclusion (e.g., DeWall et al., 2009). However, this aggressive response is diminished or eliminated if individuals perceive the potential for future social connection (Maner et al., 2007; Twenge et al., 2007) or think about current belongingness and extant friendships (McConnell, Brown, Shoda, Stayton & Martin, 2011). Perceptions about the possibility of future connection and current social embeddedness can explain the current findings and fits with emerging research illustrating the power and nature of the conditioned associations Facebook users develop. These conditioned associations take the form of viewing SNS as readily providing a way to meet social connection needs—and among heavier users, the promise of virtual connections can supplant the desire to seek real-world connections (Knausenberger et al., 2015). Perhaps more importantly, these conditioned beliefs are powerful and can be activated by exposure to a SNS cue (e.g., the Facebook Logo) even when it remains outside of conscious awareness (Knausenberger et al., 2015). In the current study, all participants’ conditioned associations to Facebook were activated as they were all tasked with rating Facebook profiles; thus, everyone was acting in a context of possible future social connections, which could explain
the lack of aggressive responding. Instead, social exclusion activated compensatory affiliation responses and led to more favorable ratings of others’ profiles as a potential friend, coworker or employee.

In regards to the second focus of the study—the effect of narcissism—we reported no significant results: contrary to prediction, individuals’ level of trait narcissism was unrelated to their affective response or behavioral aggression when faced with social exclusion. This result does not appear to be an artifact of using a median split to identify high and low narcissism groups. Similar null results (and minimal effect sizes) emerged when the data were reanalyzed defining the high and low narcissism groups by selecting only cases ± 1 SD from the mean, as advocated by DeWall et al. (2011). Additionally, as recent research (Ackerman et al., 2011) has found that the NPI may have a 3-factor structure—one of which (Leadership/Authority) can be adaptive—the NPI was recalculated to include only the maladaptive factors (Grandiose Exhibitionism and Entitlement/Exploitativeness). Results using this distilled version of the NPI did not differ and narcissism had no significant effect. However, it is important to note that although the standard deviation of the NPI was similar to that seen in prior samples and the measure was normally distributed, the mean appears relatively low compared to current estimates of generational narcissism (current study; $M = 14.73$, $SD = 6.08$). A meta-analysis conducted by Twenge et al. (2008) suggested that NPI scores are trending upward and as of 2006 were at $M = 17.29$; the current study sample’s mean appears to be closer to NPI scores from 1982 ($M = 15.06$). As such, our sample appears on the lower end of the narcissism continuum compared to the current overall population and this may have diminished the effects of narcissism regardless of how it was calculated. Additionally, the study design, with the social exclusion occurring within a context (Facebook) that activated conditioned associations and
beliefs about current and future social connections, may have deactivated the maladaptive influence of narcissism.

Also contrary to predictions and prior research, overall attributes of participants’ Facebook profiles (i.e., combined number of Facebook friends, groups, wall-posts, and lines of text in the “about me” section) were not associated with higher narcissism scores. However, difficulties with data collection severely reduced the power testing the original hypothesis of the association between the combined attributes of Facebook profiles and narcissism, and the obtained null results should be viewed with some caution. Further evidence that reduced power may be responsible for the null finding is that a significant positive relationship \((r = .20)\) with narcissism emerged between the one attribute -- number of Facebook friends -- that was not affected by the data collection difficulties; this analysis used nearly the full sample \((n = 207)\) and the results were as predicted. Nonetheless, future research is required to understand the relation between psychometric narcissism and Facebook attributes. Several recent studies have pioneered a variety of data collection methods to obtain such information. Potential methods include having participants self-report the information from their Facebook profile and Facebook usage (Bergman, Fearrington, Davenport, & Bergman, 2011; Garcia & Sikström, 2014; Ryan & Xenos, 2011) or focus not on number of posts, but on the content of what individuals are posting to their profiles (Buffardi & Campbell, 2008; Garcia & Sikström, 2014). Further, factors such as generational differences, cultural background, and type of SNS appear to play a role in the manifestation of narcissism in SNS (Panek et al., 2013; Leung, 2013). Although number of friends appears related to narcissism and SNS, this likely is but one piece of the puzzle and a more nuanced approach to detecting the influence of narcissism and SNS may be warranted going forward (Bergman et al., 2011).
Although this study employed a strong experimental design and shed light on the effects of SNS exclusion, it had several limitations. As with any experimental design, the results may not generalize from the laboratory setting to the real-life context of using social media. In order to make a similar experiment more realistic, future researchers may want to use a digital format as opposed to the print, paper and pencil format utilized in this study. This might be accomplished by having all Facebook ratings embedded within a SNS like Facebook and completed using a computer or tablet. Participants could receive feedback in a similar manner, possibly by receiving a Facebook message or some other communication through the SNS being utilized in the study. This would also have the advantage of making the data collection procedures more efficient and streamlined. In addition, this study relied on a college student sample, which may not generalize to the greater public or across generations. For instance, Davenport et al. (2014) found generational differences in a study that compared Twitter and Facebook uses in a mixed college student and general adult sample. Duggan, Ellison, Lampe, Lenhart, and Madden (2015) of the Pew Research Center found that Facebook use is prevalent across generations and demographic factors, such as gender, race and income, suggesting that there is considerable heterogeneity in Facebook users.

One area pertinent to the present study, which may also be related to differences in generational usage of Facebook, is prior SNS-related rejection. The experience of past SNS rejection has the potential to influence individuals’ reactions to a new rejection in a variety of ways. These include being inured to the experience of rejection, activating coping strategies (positive or negative) to deal with SNS rejection, and/or having a more extreme reaction due to sensitization. As such, future studies are encouraged to collect information assessing the
experience and influence of past SNS rejection when examining response to current rejection within the context of SNS.

In conclusion, the present study is one of the first to examine the results of experimentally manipulated social exclusion in the context of a SNS. Although there was no detectable effect of the personality trait of narcissism in this study, the study did produce interesting results indicating that the impact of social exclusion on affective and behavioral responses is different within a SNS. Future studies are needed to both replicate these findings and determine if they extend to the non-college population.
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### Tables

#### Table 1

**Demographic Data**

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<th>Characteristic</th>
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<td>Race/Ethnicity</td>
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<tr>
<td>Class</td>
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<td>First Year</td>
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<td>Sophomore</td>
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<td>Junior</td>
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<td>43.5</td>
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<td>23.0</td>
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<td>Colleges</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Business</td>
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<td>25.4</td>
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<td>Multi-/Interdisciplinary Studies</td>
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<td>7.2</td>
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<td>Undecided</td>
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<td>2.9</td>
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<th>$SD$</th>
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<tr>
<td>GPA</td>
<td>3.28</td>
<td>0.42</td>
<td>1.79 – 3.99</td>
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<tr>
<td>Facebook minutes / day</td>
<td>41.08</td>
<td>37.13</td>
<td>0 – 220</td>
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Table 2

Means and Standard Deviations of Study Variables at Baseline

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<th>Condition</th>
<th>Acceptance (n = 70)</th>
<th>Social Exclusion (n = 70)</th>
<th>Misfortune Control (n = 69)</th>
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<tr>
<td>Variable</td>
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<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Baseline State Negative Affect</td>
<td>13.34</td>
<td>4.30</td>
<td>13.37</td>
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<tr>
<td>Narcissistic Personality Inventory</td>
<td>14.64</td>
<td>6.00</td>
<td>13.77</td>
</tr>
<tr>
<td>Baseline Social Appeal Rating</td>
<td>90.21</td>
<td>15.69</td>
<td>90.41</td>
</tr>
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Table 3

Displaced Aggression by Condition

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<th>Condition</th>
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<th>95% CI</th>
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<td></td>
<td></td>
<td>LL</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-1.97 (2.23)</td>
<td>-6.37</td>
</tr>
<tr>
<td>Social Exclusion</td>
<td>-12.01 (2.26)</td>
<td>-16.46</td>
</tr>
<tr>
<td>Misfortune Control</td>
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<td>-10.07</td>
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</table>

Table 4

Negative Affect Level by Condition

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<th>Condition</th>
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<tr>
<td></td>
<td></td>
<td>LL</td>
</tr>
<tr>
<td>Acceptance</td>
<td>13.60 (0.66)</td>
<td>12.30</td>
</tr>
<tr>
<td>Social Exclusion</td>
<td>17.29 (0.66)</td>
<td>15.98</td>
</tr>
<tr>
<td>Misfortune Control</td>
<td>16.03 (0.67)</td>
<td>14.71</td>
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Appendices

Appendix A

Demographic Survey

1. Age: _________

2. Please check the one line that describes the race/ethnicity category with which you primarily identify:

   _____ Black or African American    _____ Caucasian
   _____ Asian or Pacific Islander    _____ Native American
   _____ Latino/a                    _____ Multiracial
   _____ Other

3. Sex:     _____ M           _____ F

4. Class:    _____ First Year      _____ Sophomore     _____ Junior     _____ Senior

5. Major: __________________

6. GPA: __________

7. Enrollment:   _____ Full- time    ____ Part Time

8. Employment   _____ Full time      ____ Part Time     ______ Unemployed

9. Average amount of minutes spent on Facebook per day: _____________
Appendix B

Narcissistic Personality Inventory

INSTRUCTIONS: In each of the following pairs of attitudes, choose the one that you MOST AGREE with. Mark your answer by checking one box. Only mark ONE ANSWER for each attitude pair and please DO NOT skip any items.

1. □ I have a natural talent for influencing people.
   □ I am not good at influencing people.

2. □ Modesty doesn’t become me.
   □ I am essentially a modest person.

3. □ I would do almost anything on a dare.
   □ I tend to be a fairly cautious person.

4. □ When people complement me I sometimes get embarrassed.
   □ I know that I am good because everybody keeps telling me so.

5. □ The thought of ruling the world scares the heck out of me.
   □ If I ruled the world it would be a better place.

6. □ I can usually talk my way out of anything.
   □ I try to accept the consequences of my behavior.

7. □ I prefer to blend in with the crowd.
   □ I like to be the center of attention.

8. □ I will be a success.
    □ I am not too concerned about success.

9. □ I am not better or no worse than most people.
    □ I think I am a special person.

10. □ I am not sure if I would make a good leader.
     □ I see myself as a good leader.

11. □ I am assertive.
    □ I wish I were more assertive.

12. □ I like having authority over other people.
     □ I don’t mind following orders.
13. I find it easy to manipulate people.
   I don’t like it when I find myself manipulating people.

14. I insist on getting the respect that is due me.
   I usually get the respect that I deserve.

15. I don’t particularly like to show off my body.
   I like to show off my body.

16. I can read people like a book.
   People are sometimes hard to understand.

17. If I feel competent I am willing to take responsibility for making decisions
   I like taking responsibility for making decisions.

18. I just want to be reasonably happy.
   I want to amount to something in the eyes of the world.

19. My body is nothing special.
   I like to look at my body.

20. I try not to be a show off.
   I will usually show off it I get the chance.

21. I always know what I am doing.
   Sometimes I am not sure of what I am doing.

22. I sometimes depend on people to get things done.
   I rarely depend on anyone else to get things done.

23. Sometimes I tell good stories.
   Everybody likes to hear my stories.

24. I want other people to do a lot for me.
   I like to do things for other people.

25. I deserve more, and I won’t be satisfied until I get it.
   I’m pretty easily satisfied.

26. Compliments embarrass me.
   I like to be complimented.

27. I really want to have power.
   I’m not interested in being powerful.
28. □ I don’t care about new fads or styles.
□ I like to start new fads.

29. □ I like to look at myself in the mirror.
□ I am not particularly interested in looking at myself in the mirror.

30. □ I love it when everyone pays attention to me.
□ It makes me uncomfortable to be the center of attention.

31. □ I can live my life in any way I want.
□ People can’t always live their lives the way they want to.

32. □ Being the boss or in charge isn’t that important to me.
□ People always seem to know that I’m in charge.

33. □ I would prefer to be a leader and take charge.
□ It makes little difference to me whether I am a leader or not.

34. □ I am going to be a great person.
□ I hope I am going to be successful.

35. □ People sometimes believe the stories I tell them.
□ I can make anybody believe anything I want them to.

36. □ I’m naturally a leader.
□ Leadership is a quality that takes a long time to develop.

37. □ I’d like someone to write a book about me.
□ I like my privacy.

38. □ If people don’t notice how I look when I go out, I get upset.
□ I don’t mind if people don’t notice me when I go out.

39. □ I can do most things better than other people.
□ I can learn a lot from other people.

40. □ I am a lot like everybody else.
□ I am better than most other people.
Appendix C

Positive and Negative Affect Schedule

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. **Indicate to what extent you feel this way right now, that is, at this present moment.** Use the following scale to record your answers.

<table>
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<tr>
<th></th>
<th>1 very slightly or not at all</th>
<th>2 a little</th>
<th>3 moderately</th>
<th>4 quite a bit</th>
<th>5 extremely</th>
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</thead>
<tbody>
<tr>
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<td></td>
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<td>distressed</td>
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<td></td>
<td>excited</td>
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</tr>
<tr>
<td></td>
<td>upset</td>
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_____ interested  _____ irritable
_____ distressed   _____ alert
_____ excited      _____ ashamed
_____ upset        _____ inspired
_____ strong       _____ nervous
_____ guilty       _____ determined
_____ scared       _____ attentive
_____ hostile      _____ jittery
_____ enthusiastic  _____ active
_____ proud        _____ afraid
Appendix D

Facebook Profile Social Appeal Rating

Please rate the following 5 profiles on how socially appealing they would be as a friend, coworker, and employee, with 1 = no appeal and 10 = complete appeal.

Profile 1:
How much would you like this person to be your friend?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your coworker?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your employee?
1 2 3 4 5 6 7 8 9 10

Profile 2:
How much would you like this person to be your friend?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your coworker?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your employee?
1 2 3 4 5 6 7 8 9 10

Profile 3:
How much would you like this person to be your friend?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your coworker?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your employee?
1 2 3 4 5 6 7 8 9 10

Profile 4:
How much would you like this person to be your friend?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your coworker?
1 2 3 4 5 6 7 8 9 10

How much would you like this person to be your employee?
1 2 3 4 5 6 7 8 9 10
Profile 5:
How much would you like this person to be your friend?
1  2  3  4  5  6  7  8  9  10

How much would you like this person to be your coworker?
1  2  3  4  5  6  7  8  9  10

How much would you like this person to be your employee?
1  2  3  4  5  6  7  8  9  10
Appendix E

Displaced Aggression Preliminary Analysis

In an effort to simplify interpretation of the primary analyses, a preliminary analysis was conducted to determine if the three categories of possible displaced aggression (friend, coworker and employee appeal) were distinct, and needed to be represented by three separate DVs, or if they could be collapsed into a single outcome variable.

A one-way repeated measure ANOVA was conducted with the grouping factor being potential social relationship (friend, coworker and employee) and the dependent variable being displaced aggression scores. The results for the ANOVA indicated a significant main effect, Wilks’s $\Lambda = .97$, $F(2, 207) = 3.53$, $p < .05$, partial $\eta^2 = .03$.

However, follow-up pairwise comparisons, using the Bonferroni method to control for escalation of alpha, indicated no significant difference for displaced aggression scores between any of the pairs. The coworker and employee pair approached significance: mean difference = .55, $p = .05$.

Due to the one marginally significant finding, prior to collapsing the three social context DVs into one, 2 MANOVAs were conducted: one with the displaced aggression DV separated into three variables (friend, coworker and employee) and one using the combined values. Results indicated there were no meaningful differences in the resulting outputs (3 x 2 omnibus MANOVA for experimental condition, Wilk’s $\Lambda = .89$, $F (4, 404) = 6.16$, $p < .001$, partial $\eta^2 = .06$; 3 x 4 omnibus MANOVA for experimental condition, Wilk’s $\Lambda = .88$, $F (8, 400) = 3.34$, $p = .001$, partial $\eta^2 = .06$). Therefore, in an effort to control for type one error, the displaced aggression DV was collapsed into a single outcome variable, resulting in conducting a 3 x 2 MANOVA vs. a 3 x 4 MANOVA in the primary analyses.
August 7, 2013

Ryan Creech
5614 Old Dover Blvd. Apt. #3
Forty Wayne, IN 46835

Dear Mr. Creech:

The IRB has completed the review of your protocol #13-002, Social Media, Social Exclusion, and Narcissism using expedited review procedures. We appreciate your thorough treatment of the issues raised and your timely response. Your study is approved in the Expedited category under Federal Regulation 45CFR46. Approval expires August 7, 2014. A progress report, available at http://www.xavier.edu/irb/forms.cfm, is due by that date.

If you wish to modify your study, including any changes to the approved Informed Consent form, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

We wish you success with your research!

Sincerely,

[handwritten signature]

Morell E. Mullins, Jr., Ph.D.
Chair, Institutional Review Board
Xavier University

MEM/sb

c: Susan Kenford, Advisor

enc. Stamped informed consent
Appendix G

Accepted Feedback Form

You are highly selective of your friends and very picky about who you have relationships with, although you have a wide range of acquaintances. While you're often very generous and kind, you occasionally have a selfish streak that you feel a bit guilty about. Additionally, often times you are outgoing and social, although at times you feel like being in isolation.

![Average Overall Facebook Profile Desirability](image)

You’re the type who has rewarding relationships throughout life. You’re likely to have a long and stable marriage and have friendships that will last into your later years. The odds are that you’ll always have friends and people who care about you.
Appendix H

Social Exclusion Feedback Form

You are highly selective of your friends and very picky about who you have relationships with, although you have a wide range of acquaintances. While you're often very generous and kind, you occasionally have a selfish streak that you feel a bit guilty about. Additionally, often times you are outgoing and social, although at times you feel like being in isolation.

You’re the type who will end up alone later in life. You may have friends and relationships now, but eventually most of these will have drifted away. You may even marry or have several marriages, but these are likely to be short-lived and not continue. Relationships don’t last, and when you’re past the age where people are constantly forming new relationships, the odds are you’ll end up being alone more and more.
Appendix I

Misfortune Control Feedback Form

You are highly selective of your friends and very picky about who you have relationships with, although you have a wide range of acquaintances. While you're often very generous and kind, you occasionally have a selfish streak that you feel a bit guilty about. Additionally, often times you are outgoing and social, although at times you feel like being in isolation.

You’re likely to be accident prone later in life – you might break an arm or a leg a few times, or maybe be injured in car accidents. Even if you haven’t been accident prone before, these things will show up later in life, and the odds are you will have a lot of accidents.