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The Effects Of Ostracism on Seeking Social Situations as Moderated by Narcissism

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THE EFFECTS OF OSTRACISM ON SEEKING SOCIAL SITUATIONS AS MODERATED BY NARCISSISM

by

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(Under the Direction of Nicholas Holtzman)

ABSTRACT

In this study, we tested assumptions about the role of personality in situation selection after experiencing ostracism. We did this by examining social situation selection in the context of narcissistic grandiosity and vulnerability. In this study, students (valid N =97) completed trait measures of narcissism and general personality before being randomly assigned to either experience ostracism or not. Afterwards, they completed measures designed to assess their desire to engage in certain social situations. We predicted that after experiencing ostracism, individuals scoring higher in grandiose narcissism would be more likely to seek out social situations, while those scoring higher in vulnerable narcissism would be less inclined to seek social situations. We found no differences in the pattern of interactions for grandiose and vulnerable narcissism (i.e., the interaction between ostracism and narcissism) in predicting social situation selection. This suggests that the situation may not be as important a factor in predicting behavior for individuals high in narcissism.

INDEX WORDS: Vulnerable narcissism, Grandiose narcissism, Ostracism, Situations

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CHAPTER 1: LITERATURE REVIEW

The narcissism literature is currently divided with regard to the cohesion or differentiation of two variants of narcissism: grandiose and vulnerable (Wink, 1991; Dickinson & Pincus, 2003; Miller & Campbell, 2008; Miller, Gentile, Wilson, & Campbell, 2013). According the DSM-V (5th ed. [DSM-V]; American Psychiatric Association, 2013), narcissism is a pervasive pattern of grandiosity, need for admiration, and lack of empathy.

Currently, the DSM-V only provides one representation of Narcissism Personality Disorder (NPD). However, literature suggests our current conceptualization of narcissism needs to be redefined. It has been noted the criteria set forth by the DSM-V provides a narrow definition of narcissism and is not always consistent with what is seen in clinical practice (Pincus, Wright, & Cain, 2014). In 2011, Miller and his colleagues (2011) examined three prominent self-report measures of narcissism: the Narcissistic Personality Inventory (Raskin & Terry, 1988), the Hypersensitive Narcissism Scale (Hendin & Cheek, 2013), and the Pathological Narcissism Inventory (Pincus et al., 2009). They found, through a nomological network analysis, evidence for two distinct constructs of narcissism: grandiose and vulnerable.

Grandiose narcissism is primarily reflected in traits such as grandiosity, aggression, a flare of optimism, and dominance. It also has a small positive correlation with self-esteem (Miller, et al., 2011). Vulnerable narcissism is characterized by defensiveness and insecurity due to a sense of inadequacy, shows a moderate negative correlation with self-esteem, and a fear of negative evaluation (Miller et al., 2011; Arble, 2008). While vulnerable narcissists have these characteristics, it is important to note they

still have the grandiose fantasies and lack of empathy associated with overall NPD. Thus far, trait approaches to distinguish the two have been used. For instance, Krizan and Johar (2012) examined narcissism through the lens of envy and found it a key component of individuals scoring higher in narcissistic vulnerability. In contrast, grandiose narcissism negatively correlated with envy.

We know of only a few investigations of Person × Situation (P×S) interactions in this realm. Besser and Priel (2010) showcased that individuals scoring higher on vulnerable narcissism measures are more likely to respond negatively to interpersonal rejection, whereas grandiose narcissists react more strongly to an achievement setback. Grandiose narcissism was related to less anger and hostility in interpersonal rejection than vulnerable narcissism.

Indeed, understanding P×S interactions may help inform the debate. Lewin (1935) put forth the formula B = *f* (P, E), meaning behavior (B) is a function of personality (P) and the environment (E). Typically, this interaction is assessed through the framework of the cultural cognitive-affective processing system (C-CAPS; Mendoza-Denton, Ayduk, Shoda, & Mischel, 1997). This model suggests behavior is a result of an individual's cognitive-affective units (CAUs) reflecting that person's beliefs, goals, values, and feelings within the context of their culture. The individual CAUs make up a vast network that functions as a whole and provides the individual suitable reactions to their current situation (Mendoza-Denton, Ayduk, Shoda, & Mischel, 1997).

It is argued that an individual's behavior varies across situations and does so in a predictable manner. As a result, the active parts of a situation are able to predict how an individual's behavior will change across situations. If the P x S interactions differs for

grandiose and vulnerable narcissists, we have achieved a level of diagnostic specificity. Roche, Pincus, Conroy, Hyde, and Ram (2012) found grandiose and vulnerable narcissism were related to specific behavior patterns by situating a theory of interpersonal behavior within the CAPS framework. They hypothesized when an individual high in grandiose narcissism perceives someone behaving dominantly, they will react by displaying more dominance. When individuals high in vulnerable narcissism perceive dominance or unfriendliness, they will respond by being submissive or with unfriendly behavior. In their study, participants made journal entries for seven days for every face-to-face interaction that lasted more than five minutes. The journal entries were then analyzed to assess interpersonal behavior and interpersonal perception through the lens of agency (assertiveness and dominance) and communion (connectedness and friendliness). The results showed that when an individual high in grandiose narcissism perceived high agency, they were more likely to respond in kind, but only when they thought their partner was high on communion. There were no significant findings for individuals high on vulnerable narcissism. For individuals high on both grandiose and vulnerable narcissism, however, when the individual perceived high agency, they would respond with low agency only if their partner was less communal. If they perceived their partner as high on communion then they would respond with high agency. The authors posited that the specific behaviors displayed by different dimensions of narcissism were reflective of different CAUs being activated and leading to differentiated behavior.

The work by Roche and colleagues (2012) ultimately can be traced to the work of Morf and Rhodewalt (2001), who cast narcissism as a self-regulatory process. Morf and Rhodewalt (2001) state the underlying fragile and vulnerable self-concept of a narcissist

leads them to seek “continuous external self-affirmation” (i.e., external admiration) in a primarily social atmosphere. In other words, narcissists can be described as having “self-image goals” in which they attempt to create approval by manipulating how others view them (Baumeister, 1982).

It is important to note Morf and Rhodewalt draw their conclusions in terms of grandiose narcissists. Therefore, it is plausible that a social situation such as ostracism might alter the degree of social connectedness the different types of narcissists seek. Indeed, there is literature suggesting fear of negative evaluation moderates the social reconnection effect. For example, revealed individuals who had been socially excluded evaluated others more favorably and reported a greater interest in making friends (i.e., engaging in social situations) (Maner, DeWall, Baumeister, and Schaller, 2007). This effect was moderated by fear of negative evaluation, such that those who scored low in fear of negative evaluation were more positive toward a new interaction as opposed to those who were higher in fear of negative evaluation. Furthermore, individuals with higher vulnerable narcissism scores are more likely to engage in social avoidance than their grandiose counterparts (Dickinson and Pincus 2003). Given that vulnerable narcissists are higher in their fear of negative evaluation than grandiose narcissists (Arble, 2008), we expect to find that social connectedness motives will be different between vulnerable and grandiose narcissists in their response to ostracism. Collectively, the current literature points to a social situation potentially being helpful in accurately differentiating behaviors of grandiose and vulnerable narcissists. This idea of course can be cast in terms of a P×S interaction.

Considering current and past literature, we propose the effects of ostracism are an appropriate mechanism for assessing the differences, if any, between grandiose and vulnerable narcissism. Ostracism is being ignored or excluded and threatens an individual's sense of belonging. The need to belong is considered to be a fundamental human need and, when threatened, leads to negative, long-term psychological and physiological effects (Baumeister & Leary, 1995). It has been shown to reduce an individual's sense of control over situations and lead to negative mood (Williams & Sommer, 1997). Ostracism also activates the part of the brain associated with physical pain (Eisenberger, Lieberman, and Williams, 2003). Ostracism's effects have mainly been examined through the lens of two possible reactions: moving toward (social seeking behavior) or moving against (being aggressive; Wesselmann, Ren, & Williams, 2015). Recent evidence suggests a third possible reaction: moving away (avoidance). Ren, Wesselmann, and Williams (2016) conducted four studies to examine this third reaction. Results revealed ostracism correlated positively with a desire for solitude and leads to solitude seeking, especially among introverts. Ostracism is most often studied using an online game called Cyberball. Cyberball is a computerized task where participants play a game of catch with two other "online" players. In reality, the two other players are confederates and have been programmed to either ignore or exclude the participant. The computerized players are programmed to toss the ball at varying speeds in order to create the illusion of varying decision-making speeds. Even though the task is completed on a computer, Cyberball has been shown to be a reliable manipulation of decreasing feelings of belongingness after only a few minutes (Williams, Cheung, & Choi, 2000). Since differences between grandiose and vulnerable narcissism have been related to self-

regulation, using ostracism provides the necessary tension to stimulate suitable CAUs for a predicted behavioral output.

Current Study

The aim of the proposed research is to identify whether different individuals seek out different social situations after experiencing ostracism. Specifically, we are interested in learning if the type of post-ostracism situation sought is reflective of personality. Investigating behavioral differences could provide important information in regards to treatment protocol, client-therapist interactions, and the consequences of ostracism on narcissistic individuals. We predict that after experiencing ostracism, individuals scoring higher in grandiose narcissism will be more likely to seek out social situations while those scoring higher in vulnerable narcissism will be less inclined to seek social connection. Figure 1 shows expected results between grandiose narcissism and seeking social situations. We predicted that those scoring higher in grandiose narcissism would score higher on seeking social situations after being ostracized than those scoring low on grandiose narcissism. We predicted there would be no differences in seeking social situations between those scoring low and high on grandiose narcissism when in the control condition. We predicted there would be no difference in responding within the

control condition due to a lack of threat.

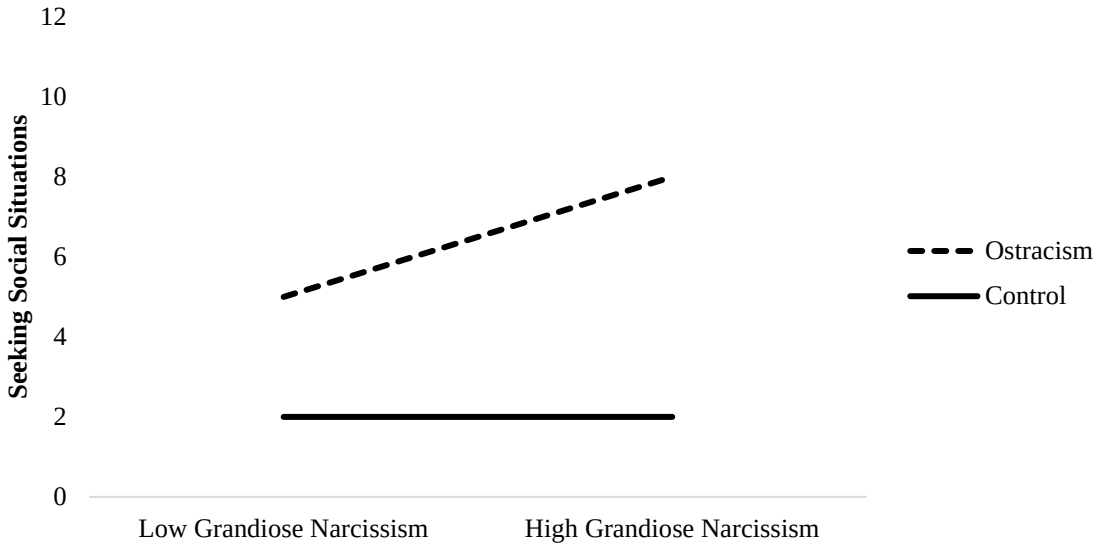

Figure 1. Expected results--grandiose narcissism

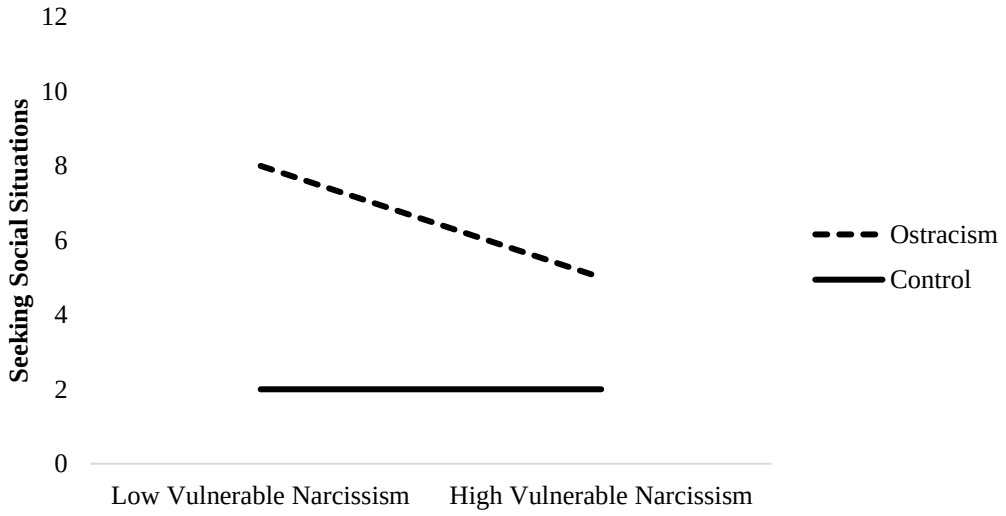

Figure 2. Expected results for vulnerable narcissism

Figure 2 shows expected results between vulnerable narcissism and seeking social situations. We predicted that those scoring higher on vulnerable narcissism would score lower on seeking social situations after being ostracized than those scoring low on

vulnerable narcissism. We predicted there would be no differences in seeking social situations between those scoring low or high on vulnerable narcissism when in the control condition. We predicted there would be no difference in responding within the control condition due to a lack of threat. If the person by situation interaction is inaccurate, then we expect no differences in the pattern of interactions for grandiose and vulnerable narcissism (i.e., the interaction between ostracism and narcissism).

CHAPTER 2: METHODOLOGY

Participants

One hundred twenty three students from undergraduate psychology courses at Georgia Southern University participated to partially fulfill a course requirement or for extra credit. Participants were recruited from an online subject pool known as SONA. Twenty-six individuals failed at least one attention check or manipulation check, leaving data from 97 participants to be analyzed. Of these participants, 64.2% self-reported as White, 24.2% as African American, 5.3% as Hispanic, 3.2% as Asian, and 3.2% identified as "Other". 70.5% self-reported as women, and the mean age was 19.6 (*SD* = 2.2).

Measures

Narcissism. Grandiose narcissism was assessed with the Narcissistic Rivalry and Admiration Questionnaire (NARQ, Back et al., 2013). This scale incorporates self-perspectives of narcissism and has shown to be a valid and reliable measure (Back, et al, 2013). It is a self-report survey including 18 questions with a 6-point Likert scale ranging from 1 (*not agree at all*) to 6 (*agree completely*). Sample questions include "I enjoy others to be inferior to me" and "I deserve to be seen as a great personality." For the current sample, Cronbach's alpha was acceptable, $\alpha = .79$.

Vulnerable narcissism was assessed using three of the seven facets of the Pathological Narcissism Inventory (PNI; Pincus, Ansell, Pimentel, Cain, Wright, & Levy, 2009. This scale is 20-item self-report with a 6-point Likert-type scale ranging from 0 (*not at all like me*) to 5 (*very much like me*). Higher scores correspond to higher levels of pathological narcissism. Sample questions include "When others don't notice me, I start

to feel worthless" and "I like to have friends who rely on me because it makes me feel important." This measure has shown adequate validity in multiple samples (Pincus et al., 2009; Jakšić, N., Milas, G., Ivezić, E., Wertag, A., Jokić-Begić, N., Pincus, A.L., 2014). For this measure, Cronbach's alpha was excellent, $\alpha = .93$.

Situations. Situations were assessed using the "Situational Eight DIAMONDS scale, RSQ-8 (Rauthmann, et al., 2014). This scale helps predict situational-dependent behaviors of duty, intellect, adversity, mating, positivity, negativity, deception, and sociality. For the purposes of our study, we only used the Sociality facet of the scale. Participants responded to 4 self-report items on a forced choice "yes" or "no." The question stem was revised to "I would seek a face-to-face social situation with other people (not involved in this study)—a situation which…" Sample items include "...a reassuring other person is present" and "...social interaction is possible." Cronbach's alpha for the current sample was unsatisfactory, $\alpha = .482$. Given the low reliability of the DIAMONDS scale, we did not use this as a DV in any analyses.

Situations were also assessed using a questionnaire designed to assess participant's interest in connecting with others through a fictional university service (Maner et al., 2007). The participants read a short paragraph about the service--Georgia Southern University (GSU) connect--and reported the degree to which they would be interested in using the service to make new friends. Participants read that, if implemented, the service would organize student events with the goal of connecting GSU students with one another and facilitating the establishment of new friendships. They were also told that student fees at GSU would increase by $75 to cover the cost of the service. Participants then responded to 10 statements on a 12-point Likert-type scale

ranging from 1 (*strongly disagree*) to 12 (*strongly agree*) assessing their interest in meeting people via the student service. Sample items include "GSU connect is a student service I might try" and "Meeting new friends is important to me". Cronbach's alpha for the current sample was excellent, $\alpha = .934$. Within each condition, the alphas were excellent $\alpha = .932$ for the control condition and $\alpha = .935$ for the ostracized condition.

Manipulation Check. To ensure the Cyberball manipulation made participants feel excluded, participants responded to three questions. For two statements, participants responded on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) about the thoughts they had during the game such as "I was ignored" and "I was excluded." They then indicated what percentage of throws they thought they received.

Procedure.

Students were recruited via the online SONA system. The study was labeled as "Personality and Situation Selection". Participants were run one, two, or three at a time. If they participated by themselves, the research assistant would tell the participant they were playing and participating with other players online. First, participants read an informed consent page that described the purpose, nature, risks, benefits, confidentiality, administrator's' contact information, and ethical parameters of participating in this study. After signing the informed consent, students were randomly assigned to individual cubicles to complete measures related to their personality — the Narcissistic Rivalry and Admiration Questionnaire (NARQ, Back et al., 2013) and the Pathological Narcissism Inventory (PNI; Pincus et al., 2009).

Following completion of the measures, participants engaged in a two-minute game of Cyberball (Williams, Cheung, & Choi, 2000). Cyberball has been validated as a reliable manipulation of inducing a sense of ostracism with participants being able to accurately perceive the percentage of "throws" they are receiving (Williams et al., 2000, Study 1). In this game, participants played an online game of catch with what they were led to believe were two other participants, but they played against virtual confederates. Participants were randomly assigned to either be in the inclusion or ostracism condition. Included participants received 10 of 30 throws (33%) throughout the game. Excluded participants received 2 of 30 throws (8%), triggering a sense of ostracism. Through mediational analyses in prior research, it was also determined the Cyberball manipulation significantly decreased perceptions of belongingness and had an aversive effect on self-esteem (Williams et al., 2000, Study 1). After exposure (or non-exposure) to the manipulation, participants responded to a need threat scale used by Williams (2000), a manipulation check to assess the perception of the number of ball tosses they received, the sociality facet of the Situational Eight Diamonds scale, RSQ-8 (Rauthmann, et al., 2014), and a questionnaire regarding a fictitious student service the university was considering implementing, GSU Connect (Maner, et al., 2007). Participants were then debriefed to ensure they understood if they felt left out during the game, it was just computer programming and no one was intentionally trying to exclude them.

Design

This experiment involved a between-subjects manipulation (threat vs. no threat). Participants were randomly assigned to experience ostracism (or not) and then measured on the type of social situation they preferred to be in following their experience.

CHAPTER 3: RESULTS

In the paragraphs that follow, all results presented are based on the participants (N = 97) whose data reflected valid responding and successfully completing the manipulation checks.

Preliminary Analysis

To create a score for vulnerable narcissism from the PNI, participants' responses to three subscales (Contingent self-esteem [CSE], Hiding Self [HS], and Devaluing [DEV] were averaged together. To create a grandiose narcissism score from the NARQ, participants' scores on the scales were averaged, and then averaged on the facets of Admiration and Rivalry. For each measure, there was a catch item to help identify random respondents. Narcissism scores on the NARQ ranged from 1.78 to 4.78. (M = 3.12, SD = 0.54) whereas scores on the PNI ranged from 1.44 to 4.44 (M = 2.7, SD = .58). Additionally, there was a manipulation check. For the manipulation check, participants responded to two questions "I felt ignored" and "I felt excluded" on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*; Williams et al., 2000, Study 1). If participants responded were in the ostracized condition and responded between 3 and 5, their responses were kept. If their responses were not within this range, their data was discarded. If they were in the control condition and responded between 1 and 2, the data was kept. If their responses were not within this range, their data was discarded. These two items were significantly, positively correlated ($r(97) = .963$, $p < .001$). The correlation between the ostracism manipulation and the manipulation check was ($r(97) = .775$, $p < .001$), indicating those in the ostracism condition were more likely to report feeling ignored and excluded.

An independent samples *t*-test was conducted to determine whether there were any gender differences on the scores for grandiose or vulnerable narcissism. Men (M = 3.13, SD = 0.45) and women (M = 3.14, SD = 0.57) scored comparably on grandiose narcissism, $t(93) = -.098$, $p = .19$, Cohen's $d = .019$. Men (M = 2.973, SD = 0.722) and women (M = 2.939, SD = 0.632) also scored comparably on vulnerable narcissism, $t(93) = .228$, $p = .820$, Cohen's $d = .050$.

Tested Hypotheses

In general, we expected different person × situation interaction patterns for the two varieties of narcissism. To test our hypotheses, we ran two moderation analyses using Model 1 of the PROCESS macro in SPSS (Hayes, 2013) to determine how narcissism moderates the effect of ostracism on social situation selection. We predicted ostracism would lead individuals higher in grandiose narcissism to seek out social situations while ostracism would lead individuals higher in vulnerable narcissism to be less inclined to seek out social situations. In the data set, participants in the control condition were coded with a "1", while those in the ostracized condition were coded with a "2" so the direction of the correlation could be interpreted. Ostracism and GSU Connect were not significantly correlated ($r(97) = -.108$, $p = .293$) and ostracism did not predict social situation seeking as measured by GSU Connect, $B = -0.497$, $t(93) = -1.057$, $p = 0.293$.

GSU Connect and grandiose narcissism were not significantly related ($r(97) = .156$, $p = .127$). Grandiose narcissism did not predict scores on GSU Connect $B = .675$, $t(97) = 1.539$, $p = .127$. There was no main effect of grandiose narcissism with social situation seeking $B = .616$, $t(97) = 1.384$, $p = .17$. There was no significant interaction

between ostracism and grandiose narcissism B = -.369, $t(97)$ = -.401, p = .689. The pattern of the interaction is presented in Figure 3.

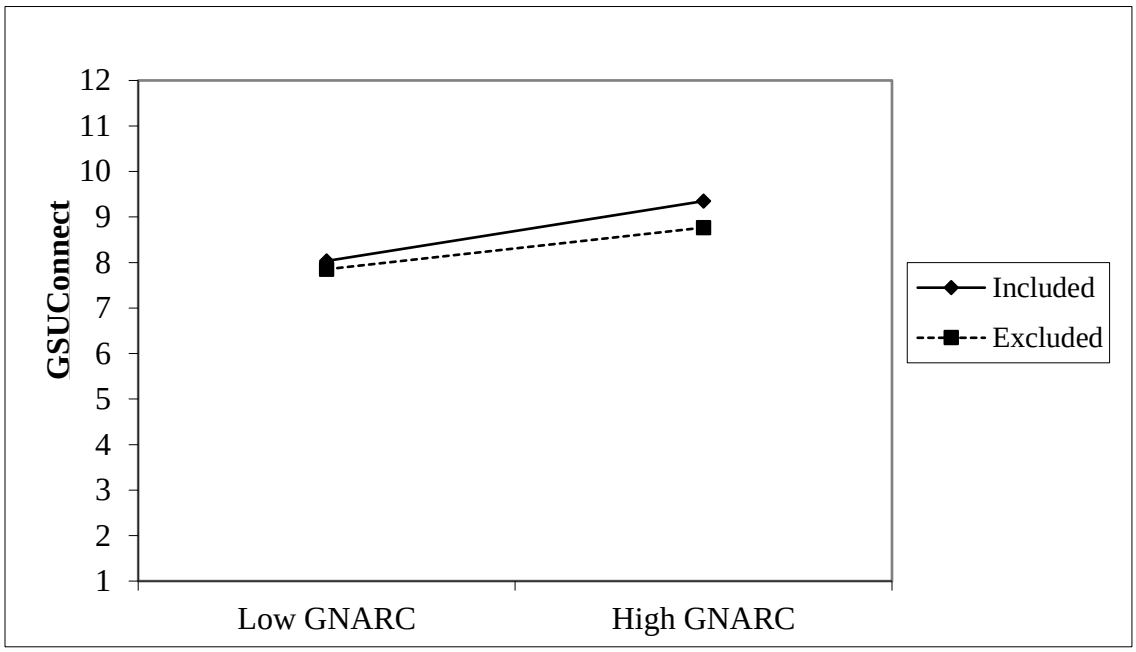

Figure 3. Interaction of ostracism and grandiose narcissism predicting GSUConnect (which is my operationalization of social situation seeking). This figure represents the relationship between Grandiose Narcissism and Social Situation Seeking: GSU Connect depending on whether a person was ostracized or not.

Social situation selection and vulnerable narcissism were not significantly correlated, $r(97)$ = .106, p = .301. Vulnerable narcissism did not predict scores on GSU Connect B = 0.377, $t(97)$ = 1.039, p = .301. There was no significant main effect of vulnerable narcissism with social situation seeking B = .397, $t(97)$ = 1.095, p = .276. There was no significant interaction between ostracism and vulnerable narcissism B = .477, $t(97)$ = 0.638, p = .525. This can be seen in Figure 4.

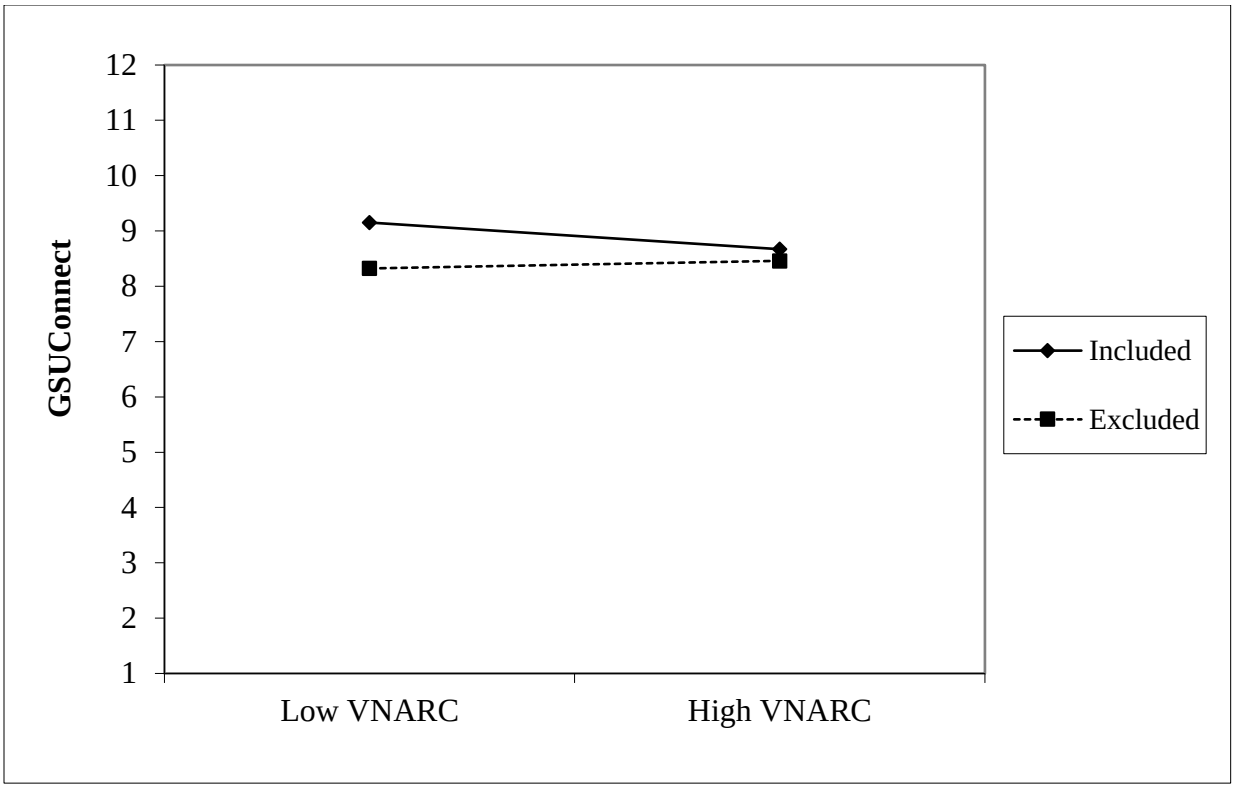

Figure 4. Interaction of Vulnerable Narcissism and Ostracism. This figure represents the relationship between Vulnerable Narcissism and GSU Connect depending on whether a person was ostracized or not.

CHAPTER 4: DISCUSSION

The objective of this study was to determine whether and how narcissism moderated the effects of ostracism on situation selection. Our first hypothesis was that those who scored high on grandiose narcissism would have a stronger desire to engage in social situations after experiencing ostracism. The interaction (in Figure 3) was not significant. Our second hypothesis stated those who scored high on vulnerable narcissism would not want to engage in social situations after experiencing ostracism. The interaction (in Figure 4) was not significant. In the paragraphs that follow, we will review why our manipulation may not have elicited the results we expected and hypothesize why narcissism did not moderate responses to the situation.

There are at least three potential reasons our results do not match our initial hypotheses, a lack of potential reactions, not participating with a close other, and the perceived threat in the situation being too low to detect an effect. First, we only provided two reactions to ostracism (avoidance and approach). We did not provide an opportunity for individuals to aggress. Multiple studies report grandiose individuals retaliating after feeling slighted (Krizan & Johar, 2012). Second, we may not have seen expected results because the ostracism/rejection threat was not coming from a significant other. Bresser and Priel (2010) found high levels of vulnerable narcissism were significantly associated with high interpersonal threat. However, their threat involved a significant other. Within their study, participants read a high or low threat vignette of a hypothetical scenario where they experience romantic rejection. In the high threat condition, they imagine coming home from work early to find their partner cheating on them and claiming to be in love with that person. In the low threat condition, the participants imagine coming

home to hear laughing coming from the apartment they share with their partner, only to realize the laughter is just coming from the TV. Our study attempted to find differences using an interpersonal threat coming from strangers. While Cyberball is a reliable manipulation and has been shown to decrease feelings of belongingness after just two minutes (Williams et al., 2000, Study 1), it is possible we needed to have them play with individuals who are important to them rather than strangers.

Third, as interpreted, our results do not lend support to the traditional PxS interaction model, in regards to narcissism. The person by situation model suggests behavior is a function of interaction between personality and the environment. In this study, we found in general, those who scored higher on grandiose narcissism were more likely to score higher on social situation seeking regardless of whether they were ostracized or not. Additionally, those scoring higher on vulnerable narcissism were more likely to score lower on social situation seeking regardless of whether they were ostracized or not. This suggests behavior associated with narcissistic personality may be consistent, regardless of the situation. Indeed, the person by situation debate began as a question of whether behavior is consistent (Fleeson & Noftle, 2008). Mischel (1973; as cited in Fleeson & Noftle, 2008) suggested individuals interpret situations in meaningful ways and then center their behavior on their interpretations, therefore, personality should be seen as flexible. Support for this interpretation came from small cross-situational correlations, meaning a person's behavior is not exactly the same in two situations (Fleeson & Noftle, 2008). In response to this suggestion, personality psychologists developed mass empirical evidence supporting their idea of trait consistency. Specifically, it was found there is a general structure of differences in traits, traits are

relatively stable across time, and genetics play a part in predicting personality (Fleeson & Noftle, 2008). Many have attempted solutions to this debate suggesting behavior is the only variable in the short term and traits do not produce a single facet of behavior, but produce a continuum of probable responses depending on the situation (see Mischel, 1968; Epstein, 1979; Fleeson, 2001). However, our results suggest the situation may not play as big a role in predicting behavior of those scoring high on narcissism, since responses on social situation seeking were consistent across conditions. This is consistent with recent results from Maaß and Ziegler (2017). In their study, they assessed how situational cues influence personality. Participants received no prime, a subliminal prime, or an explicit prime to self-promote prior to a self-description task. Within the explicit prime condition, all participants were more likely to self-promote favorably and narcissistically. However, those scoring high in narcissism self promoted regardless of condition. It is important to note that the researchers based their results on grandiose narcissists. However, the authors did suggest that instead of studying the situation, it would be helpful to measure situation perception along with monitoring state levels of the personality trait with the observable behavior (Maaß & Ziegler, 2017).

Our results also do not support the CAPS model as a reason for differentiated behavior between facets of narcissism, indicating there were no differentiated CAUs being activated for grandiose or vulnerable narcissism after an experience of ostracism. The Cognitive-Affective Processing System (CAPS), a popular mechanism of assessing PxS interaction, suggests behavior is a function of the environment. Specifically, the environment activates individualized cognitive-affective units (CAUs) to provide the individual with a suitable response. Each individual's CAUs are a result of their own

experiences, beliefs, and culture and create predictable responses to behavior (Mendoza-Denton, Ayduk, Shoda, & Mischel, 1997). We predicted differentiated responses in behavior of grandiose and vulnerable narcissism would occur as a result of different CAUs being activated after an experience of ostracism. While grandiose and vulnerable narcissists did respond differently on a measure of social situation selection, the effect was non-significant, and differences in responding do not appear to be a result of the situation (i.e. ostracism). I believe all of these reasons contributed to why we did not find the expected results.

Limitations

This study, while reliably constructed, does have some limitations. First, our sample size was fairly small. Our valid sample size consisted of only ninety-seven participants, which may have been too small to detect any significant differences. Second, our sample consisted of only college students. College students are not representative of the overall population and their scores on the narcissism measures were relatively low. Third, we only provided two possible reactions to ostracism. It is possible this did not capture the full range of suitable behaviors for our participants. Fourth, our participants participated with strangers. It is possible this did not trigger a threat for our target participants. Fifth, some participants participated by themselves while some participated with others. It is possible this infused error into the design. Finally, it is possible that by altering the DIAMONDS measure from a Likert-type scale to a forced choice scale we reduced it's reliability. The low reliability of the DIAMONDS scale means we only had one dependent variable to base our results on.

Practical Implications

Based on the results of this study, we cannot make any conclusive statements about behavioral differences between grandiose and vulnerable narcissists, in response to ostracism. Whether there are behavioral differences beyond reactions to achievement setbacks, interpersonal rejection, or perceptions of agency and communion (Besser & Priel, 2010; Roche et al., 2012) is still to be determined. Investigating behavioral differences between vulnerable and grandiose narcissists is important because it could provide important information in regards to treatment protocol and client-therapist interactions. Investigating behavioral differences in response to ostracism, specifically, is important because of the consequences of ostracism. Ostracism threatens an individual's need to belong, need for control, and meaningful experience (Baumeister & Leary, 1995; Williams, 2001). Therefore, it is important to examine specific reactions from narcissists to this threat in order to come up with helpful ways to reframe the situation and provide suggestions on how to navigate the experience to minimize harm to the ostracized individual and whomever they may potentially retaliate against.

Future Directions

Next steps for this study include increasing sample size, using a community sample, providing more possible reactions to the situation, and having participants play with individuals who are close to them. Increasing the sample size will increase power to detect any potential differences. Using a clinical sample will increase the range of narcissism scores, subsequently increasing the power to detect any significant differences or effects and make results more generalizable. Providing other possible reactions to the situation, such as aggression, will allow participants to more accurately indicate the situation they desire to be in after ostracism. Having participants play Cyberball with

close others instead of strangers will allow us to assess differences in behavioral responses when threats come from close others versus from strangers. Lastly, it will be important to infuse consistency into the design by running participants one at a time and not altering the DIAMONDS scale.

Conclusion

In conclusion, none of our predicted interactions were significant. There were no differences in social situation seeking between the control and experimental groups, suggesting the situation was not an adequate predictor of behavior. Additionally, vulnerable and grandiose narcissism did not predict social situation seeking, suggesting underlying personalities was not predicting behavior. Follow-up studies are needed in order to determine any potential effects.

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Table 1

Descriptive statistics of Narcissism and Outcome Measures

	M	*SD*	Min	Max
Vulnerable Narcissism	4.861	0.651	1	5
NARQ	3.12	0.54	1	7
GSUConnect	8.13	2.32	1	12

Table 2
Bivariate Correlation Matrix of Narcissism and Outcome Measures

	Vulnerable Narcissism	NARQ	PNI	GSU Connect
Vulnerable Narcissism				
NARQ	.300**			
PNI	.958**	.399*		
GSU Connect	0.106	0.156	0.071	

**. Correlation is significant at .001 level
*. Correlation is significant at .05 level

Table 3. *Regression and PROCESS results for Grandiose Narcissism*

	B Coeff.	*SE*	*t*	*p*	95% CI LL	95% CI UL
Model 1						
R^2 = .012, *MSE* = 2.314						
Intercept	8.884	0.75	11.841	0	7.395	10.374
Ostracism Condition	-0.497	0.47	-1.057	0.293	-1.431	0.436
Model 2						
R^2 = .024, *MSE* = 2.2994						
Intercept	6.023	1.39	4.334	0	3.264	8.782
Grandiose Narcissism	0.675	0.439	1.539	0.127	-0.196	1.545
Model 3						
R^2 = .031, *MSE* = 2.303						
Intercept	6.802	1.68	4.048	0	3.465	10.138
Ostracism Condition	-0.392	0.474	-0.827	0.41	-1.334	0.549
Grandiose Narcissism	0.616	0.445	1.384	0.17	-0.268	1.5
Model 4						
R^2 = .0330, *MSE* = 5.3531						
Intercept	4.895	5.049	0.963	0.335	-5.133	14.923
Ostracism Condition	0.772	2.945	0.262	0.794	-5.076	6.621
Grandiose Narcissism	1.217	1.566	0.777	0.439	-1.892	4.326
Ostracism × Grandiose	-0.369	0.923	-0.401	0.689	-2.204	1.464

Note: R^2 increase due to the interaction was .002, $F(1,93)$ = .1605, p =.689.

Table 4. *Regression and PROCESS results for Vulnerable Narcissism*

	B Coeff.	*SE*	*t*	*p*	95% CI LL	95% CI UL
Model 1						
R^2 = .012, *MSE* = 2.314						
Intercept	8.884	0.75	11.841	0	7.395	10.374
Ostracism Condition	-0.497	0.47	-1.057	0.293	-1.431	0.436
Model 2						
R^2 = .011 *MSE* = 2.315						
Intercept	7.022	1.092	6.43	0	4.854	9.19
Vulnerable Narcissism	0.377	0.363	1.039	0.301	-0.343	1.097
Model 3						
R^2 = .024, *MSE* = 2.312						
Intercept	7.755	1.274	6.085	0	5.225	10.286
Ostracism Condition	-0.523	0.47	-1.112	0.269	-1.457	0.411
Vulnerable Narcissism	0.397	0.363	1.095	0.276	-0.323	1.117
Model 4						
R^2 = .0284, *MSE* = 5.379						
Intercept	10.001	3.742	2.6725	0.0089	2.5697	17.4315
Ostracism Condition	-1.9209	2.2395	-0.8577	0.3933	-6.3681	2.5264
Vulnerable Narcissism	-0.3708	1.2568	-0.295	0.7686	-2.866	2.1251
Ostracism × Vulnerable	0.4765	0.7464	0.6384	0.5248	-1.0057	1.9588

Note: R^2 increase due to the interaction was .004, $F(1,93) = .408$, $p = .525$.